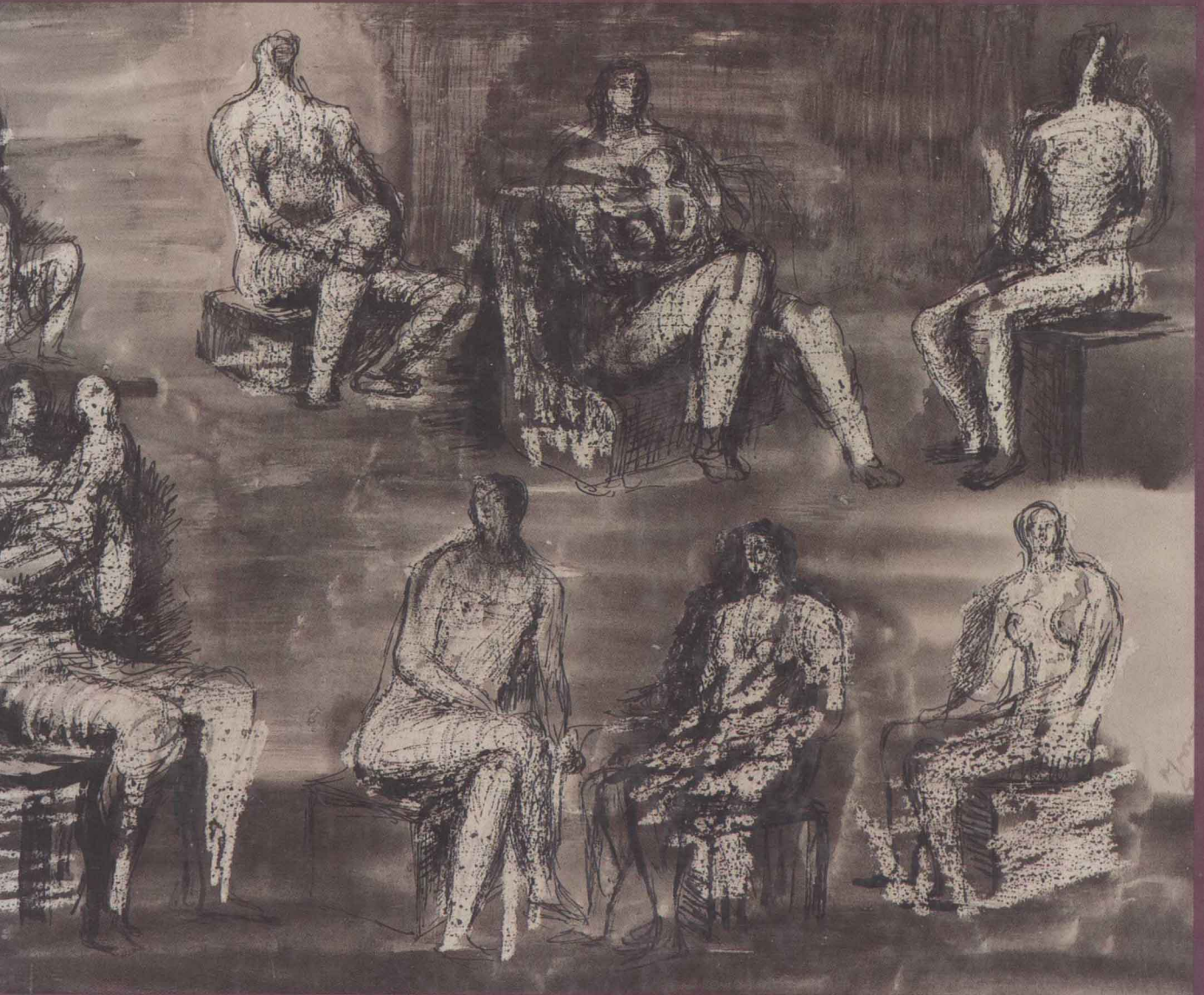


# LIFE-SPAN HUMAN DEVELOPMENT



CAROL K. SIGELMAN  DAVID R. SHAFFER

# *LIFE-SPAN HUMAN DEVELOPMENT*

CAROL K. SIGELMAN

UNIVERSITY OF ARIZONA

DAVID R. SHAFFER

UNIVERSITY OF GEORGIA



Brooks/Cole Publishing Company  
Pacific Grove, California

Brooks/Cole Publishing Company  
A Division of Wadsworth, Inc.

© 1991 by Wadsworth, Inc., Belmont, California 94002.  
All rights reserved. No part of this book may be reproduced, stored  
in a retrieval system, or transcribed, in any form or by any means—  
electronic, mechanical, photocopying, recording, or otherwise—  
without the prior written permission of the publisher, Brooks/Cole  
Publishing Company, Pacific Grove, California 93950,  
a division of Wadsworth, Inc.

Printed in the United States of America

10 9 8 7 6 5 4 3

**Library of Congress Cataloging-in-Publication Data**

Sigelman, Carol K.  
Life-span human development / Carol K. Sigelman, David R. Shaffer.  
p. cm.  
Includes bibliographical references.  
ISBN 0-534-12282-5  
1. Developmental psychology. I. Shaffer, David R. (David Reed),  
1946— II. Title.  
BF713.S53 1990  
155—dc20 89-29685  
CIP

Sponsoring Editors: Vicki Knight and Philip L. Curson  
Marketing Representative: Mark Francisco  
Editorial Assistants: Amy Mayfield and Heather Riedl  
Production Coordinator: Fiorella Ljunggren  
Production: Nancy Sjöberg, Del Mar Associates  
Manuscript Editor: Lillian R. Rodberg  
Permissions Editor: Elaine Kleiss  
Interior and Cover Design: John Odam  
Cover Art: *Seated Figures* (1940), by Henry Moore, has been  
reproduced by kind permission of the Henry Moore Foundation  
Interior Illustration: Cyndie Clark-Huegel and Wayne Clark  
Photo Researcher: Frankie Wright  
Typesetting: TypeLink, Inc.  
Cover Printing: The Lehigh Press, Inc.  
Printing and Binding: R. R. Donnelley & Sons Company

(Credits continue on p. 707.)

# *LIFE-SPAN HUMAN DEVELOPMENT*

Our purpose in writing this overview of life-span human development has been to create the book that we would most want our students to read—one that piques and satisfies their curiosity about how and why human beings change (and remain the same) from their beginnings as fertilized eggs to their last years of life, and one that shares the best theories, research, and practical advice that developmentalists have to offer. We want our students to understand that human development is an incredibly complex process that grows out of the interactions between a changing person and a changing world and that continues throughout the entire life span. We want them to appreciate how major theories of human development guide researchers but can also help anyone analyze the “real-life” issues that developing persons face. And we would like them to appreciate that the best advice about such matters as raising children, working with troubled adolescents, and aiding nursing home residents is based on research reports rather than on armchair speculation.

Guided by these goals, we have written a text that delves into important theoretical issues and incorporates the best of both classic and contemporary research from the several disciplines concerned with understanding developmental processes. But we also recognize that solid scholarship is of little benefit to students unless they want to read it and can understand it. Fortunately, our own excitement about human development has made it easy for us to bring our subject to life. We have done all that we can to write in a straightforward and informal manner, to clarify concepts through concrete examples or analogies, to amuse, to provoke thought, and to point out the relevance of material to students’ lives and to the work of teachers, psychologists, nurses, day-care workers, and other human service professionals. In short, we have aimed for a book that is both rigorous and readable, both scholarly and practical.

### Our Topical/Chronological Approach

The large majority of life-span development textbooks adopt a chronological or “age/stage” approach, carving the life span into age ranges and describing the prominent characteristics of individuals within each age range. By contrast, we use a topical approach blended with a chronological approach within topics. We focus on domains of development such as physical growth, cognition, and personality as we trace developmental trends in each domain from infancy to old age.

Why have we bucked the tide? Like many other instructors, we have typically favored topically organized textbooks when teaching child, adolescent, or adult development courses. As a result, it seemed only natural to use that same topical approach in introducing students to the whole life span. More important, a topical organization allows us to convey more effectively the flow of development—the systematic, and often truly dramatic, *transformations* that take place in the course of human life, as well as the *continuities* in development that make each individual a reflection of his or her past self. The topical approach also lends itself to a strong emphasis on developmental processes, so that students come away with a firm grasp of how nature and nurture contribute over time to normal developmental changes, as well as to differences among individuals.

Finally, a predominantly topical approach facilitates adopting a *life-span perspective* on human development. Happenings within any one period of the life span can be viewed from the vantage point of what comes before and what is yet to come. In chronologically organized textbooks, many topics are discussed only in connection with the age group to which they seem most relevant—for example, attachment in relation to infancy, play in relation to the preschool years, or sexuality in relation to adolescence and adulthood. As we have pursued our goal of writing a topical life-span text, we have repeatedly found our-



selves grappling with intriguing questions that we might otherwise not even have asked. Consider the topic of attachment: Could what we know about infants' attachments to their parents also be useful in analyzing the attachments that children form to their best friends or that adults form to their romantic partners? Do securely attached infants later have a greater capacity to form and sustain friendships or romantic partnerships than infants whose early social experiences are less favorable? What are the consequences at different points in the life span of lacking someone to whom one is closely attached? Attachments are important throughout the life span, and we try to make that clear. Similarly, we have found it fascinating and instructive to ask how the young child's capacity for play is channeled later in life, or how mature sexuality evolves from the sexual curiosity evident even during infancy.

In short, we have adopted a topical approach because we consider it the best way to introduce the how and why of human development. However, we also appreciate the strengths of the chronological approach, particularly its ability to portray "the whole person" in each period of the life span. For this reason, we have integrated the age/stage approach within our topical organization—to have the best of both worlds.

Each topical chapter contains major sections on infancy, childhood, adolescence, and adulthood. The very existence of these sections is proof that we have indeed traced development in each of the domains we cover across the *whole* life span, although we do, of course, vary our emphasis on each period of the life span depending on its significance for the domain of development under consideration. These age/stage sections aid students in appreciating the distinctive qualities of each phase of life and make it easier for them to find material on any age period of particular interest to them. Moreover, they allow instructors who wish to move further in the direction of an age/stage approach to cover infancy, childhood, and adolescence in the first portion of the course and save all the material on adulthood for the end of the course.

To further emphasize the interrelatedness of developments within each age range, we have written a concluding chapter that summarizes major developments in each of seven periods of the life span, as well as broad themes in life-span development. This chapter serves as a handy ref-

erence for students who want to consolidate what they have learned so far or to strengthen their grasp of the "big picture." Finally, we have seized every opportunity along the way to highlight the intimate interrelationships among physical, cognitive, personal, and social development.

### Organization of the Text

The book begins by orienting students to the scientific study of life-span development (Chapter 1) and to the central issues and theoretical perspectives that have dominated the field (Chapter 2). It then explores developmental processes in some depth, discussing genetic influences (Chapter 3) and environmental influences (Chapter 4) on development from a life-span perspective, showing how genes contribute to maturational changes and individual differences throughout the life span and how people are also the products of a prenatal environment and of postnatal experiences that vary as a function of age, culture, and historical period.

Chapters on the growth and aging of body and nervous system (Chapter 5) and on the development of sensory and perceptual capacities (Chapter 6) launch our examination of the development of basic human capacities. Chapter 7 introduces the Piagetian perspective on cognitive development and describes the development of language in relation to the development of thought; Chapter 8 views learning, memory, and problem solving from an information-processing perspective; and Chapter 9 explores the psychometric approach to cognition, delving into individual differences in intelligence and creativity.

The next three chapters concern the development of the self—changes in self-conceptions and personality (Chapter 10), in gender roles and sexuality (Chapter 11), and in personal priorities as they are reflected in motives and moral standards (Chapter 12). The self is set more squarely in a social context as we trace life-span changes in relationships and social competencies (Chapter 13), in roles and relationships within the family (Chapter 14), and in lifestyles as they are expressed in play, school, and work activities (Chapter 15). Finally, we offer a life-span perspective on developmental problems and disorders (Chapter 16), examine why people die and how they cope with death (Chapter 17), and highlight key trends and issues in life-span development (Chapter 18).

## Chapter Organization

To ease the student's task, each chapter has been written in a standard format (with some deviations, we confess, in the first two chapters and the last) and contains, in this order:

*A chapter outline* that orients students to what lies ahead.

*Introductory material* that stimulates interest, lays out the plan for the chapter, and introduces key concepts, theories, and issues relevant to the area of development to be explored.

*Four developmental sections* that describe key changes and continuities, as well as the mechanisms underlying them, during four developmental periods—infancy, childhood, adolescence, and adulthood.

*Applications*, an examination of how knowledge has been applied to optimize development in the domain of development at issue. “Applications” sections deal with such topics as genetic counseling; recent innovations in care for premature babies; and programs designed to improve intellectual functioning, self-esteem, moral reasoning, social skills, and family functioning at different ages.

*Reflections*, a section in which we make some concluding observations and challenge students to step back from the material, appreciate its broader significance, or think about a chapter's themes in new ways. The “Reflections” sections help students see the larger picture—and contemplate the view.

*Summary points* that succinctly overview the chapter's main themes to aid students in reviewing the material.

*Key terms*, a list of the new terms introduced in the chapter. The terms are printed in boldface, defined when they are first presented in a chapter, and included in the glossary at the end of the book.

In addition, each chapter is sprinkled with photographs, tables, and figures. Although some of these are intended to stimulate interest or to entertain, they have a serious educational purpose as well: summarizing stage theories, presenting revealing research data, or illustrating concepts discussed in the chapter.

Similarly, the “boxes” in each chapter are integral parts of the text. They offer a closer look at selected topics, among them ways of combatting an infant's fear of strangers in the doctor's office, the effects of children on their parents, misconceptions about hyperactivity, the advantages and disadvantages of working part time during adolescence, cultural differences in the experience of menopause, problems facing middle-aged people who must care for their ailing parents, and interventions to increase the well-being of nursing home residents.

Finally, a word on referencing. Each chapter cites the authors and dates of publication for a large number of books and articles, which are fully referenced in the chapter-by-chapter bibliographies at the end of the book. Although some students may find these citations distracting, they are included for good reasons: because we *are* committed to the value of systematic research, because we believe in giving proper credit where credit is due, and because we want students to have the resources they need for pursuing their interests in human development.

## Supplementary Aids

For the instructor, there is an instructor's manual that contains chapter outlines, learning objectives, and suggestions for class discussion, projects, films, videos, and additional readings. The test bank offers at least 60 multiple-choice and 10 true-or-false items for each chapter. The student study guide is designed to promote active learning by a guided review of the important principles and concepts in the text. The study materials for each chapter also include a comprehensive multiple-choice self-test and a number of “applications” exercises that challenge students to think about and to apply what they have learned.

## Acknowledgments

A project of this magnitude cannot be carried out without the efforts of many people, all of whom deserve our deepest thanks. We are very grateful to the reviewers of the manuscript for their constructive criticism and useful suggestions. They are Freda Blanchard-Fields of Louisiana State University, Janet Fritz of Colorado State University, John Klein of Castleton State College, Rosanne Lorden of Eastern Kentucky University, Robin Palkovitz of the University of Delaware, Suzanne Pasch of the University of

Wisconsin at Milwaukee, and Katherine Van Giffen of California State University at Long Beach. We would also like to thank the many reviewers of the first and second editions of Shaffer's *Developmental Psychology: Childhood and Adolescence*. Their contributions to that book are reflected in the coverage of child development here.

For their help with some of the "drudge work" and for their enthusiasm about the book, we thank former students Susan McGurk, Sara Glisky, and Kelly Mansfield. Credit for excellent supplementary materials goes to Elizabeth Rider of Elizabethtown College, who prepared the study guide and material for the instructor's manual, and to Ariel Anderson of Western Michigan University, who prepared the test bank.

Producing this book required the joint efforts of Brooks/Cole and Del Mar Associates. We want to express our gratitude to Fiorella Ljunggren of Brooks/Cole for overseeing the whole process; to Nancy Sjoberg and her colleagues at Del Mar Associates for their creative and careful production work; and to Lillian Rodberg for all the thought and care she invested in copy editing and indexing. These pros were a joy to work with, and the book is much better because of them.

We are also deeply indebted to our sponsoring editors, C. Deborah Laughton and Vicki Knight. It was C. Deborah who saw the need for a life-span text like this one, pestered us unmercifully until we agreed to write it, and nurtured us as we began. It is unfortunate that she left Brooks/Cole before she could see her "baby" born, but we hope that she takes pride in the birth nonetheless. We are equally grateful to Vicki Knight, who joined Brooks/Cole when we needed her and skillfully shepherded the book through its final stages of development. Both C. Deborah and Vicki were more than splendid editors; they were invaluable sources of advice and moral support, as well as good friends.

Finally, we thank our families for all that they have contributed to our development and to our understanding of development. There is simply no way to thank Lee Sigelman enough for enduring a preoccupied spouse and a precipitous decline in the quality of his life without filing for divorce.

*Carol K. Sigelman*  
*David R. Shaffer*



# *LIFE-SPAN HUMAN DEVELOPMENT*

---

## BRIEF CONTENTS

---

CHAPTER 1	
Understanding Life-Span Human Development	1
CHAPTER 2	
Theories of Human Development	31
CHAPTER 3	
The Genetics of Life-Span Development	67
CHAPTER 4	
Environment and Life-Span Development	99
CHAPTER 5	
The Physical Self	133
CHAPTER 6	
Perception	165
CHAPTER 7	
Cognition and Language	197
CHAPTER 8	
Learning and Information Processing	235
CHAPTER 9	
Mental Abilities	269
CHAPTER 10	
Self-Conceptions, Personality, and Emotional Expression	303
CHAPTER 11	
Gender Roles and Sexuality	335
CHAPTER 12	
Choices: Motives and Morals	369
CHAPTER 13	
Participation in the Social World	403
CHAPTER 14	
The Family	437
CHAPTER 15	
Lifestyles: Play, School, and Work	471
CHAPTER 16	
Psychological Disorders Throughout the Life Span	505
CHAPTER 17	
The Final Challenge: Death and Dying	537
CHAPTER 18	
Fitting the Pieces Together	569



# 1

## UNDERSTANDING LIFE-SPAN HUMAN DEVELOPMENT 1

WHAT IS DEVELOPMENT? 2

DIFFERENT CONCEPTS OF THE LIFE SPAN 4

Historical Changes in Phases of the Life Span 5

Cultural Differences in Phases of the Life Span 7

WHAT IS THE SCIENCE OF LIFE-SPAN DEVELOPMENT? 8

HOW THE STUDY OF HUMAN DEVELOPMENT HAS EVOLVED 10

A Science Is Born 10

The Study of Human Development Today 10

A Life-Span Perspective on Human Development 11

THE SCIENTIFIC METHOD 12

MEASURING BEHAVIOR: DATA COLLECTION TECHNIQUES 13

Interviews and Questionnaires 14

Psychological Tests 15

Behavioral Observation 15

Case Studies 15

DESCRIBING DEVELOPMENT: DEVELOPMENTAL RESEARCH DESIGNS 16

The Cross-Sectional and Longitudinal Designs in Brief 16

Age, Cohort, and Time of Measurement 17

Strengths and Weaknesses of the Cross-Sectional Design 18

Strengths and Weaknesses of the Longitudinal Design 18

Sequential Designs: The Best of Both Worlds 20

EXPLAINING DEVELOPMENT: EXPERIMENTAL AND CORRELATIONAL METHODS 22

The Experimental Method 22

The Correlational Method 24

SOME THORNY ISSUES IN CONDUCTING DEVELOPMENTAL RESEARCH 26

Choosing Samples of People for Study 26

Measuring the Same Trait at Different Ages 27

Protecting the Rights of Research Participants 29

REFLECTIONS 29

SUMMARY POINTS 30

KEY TERMS 30

# 2

## THEORIES OF HUMAN DEVELOPMENT 31

BASIC ISSUES IN HUMAN DEVELOPMENT 33

The Nature of Human Beings: Good, Bad, or Neither? 33

Nature Versus Nurture 33

Activity Versus Passivity 34

Continuity Versus Discontinuity 34

One Path or Many? 35

FREUD'S PSYCHOANALYTIC THEORY 35

Human Nature: Instincts and Unconscious Motives 35

Three Components of Personality: Id, Ego, and Superego 36

The Stages of Psychosexual Development 37

Early Experience, Defense Mechanisms, and Adult Personality 39

Strengths and Weaknesses of Freud's Theory 40

ERIKSON'S THEORY OF PSYCHOSOCIAL DEVELOPMENT 41

Freud and Erikson Compared 41

Eight Life Crises 42

Strengths and Weaknesses of Erikson's Theory 45

PIAGET'S COGNITIVE-DEVELOPMENTAL THEORY 46

Piaget's Basic Perspective on Intellectual Development 46

Four Stages of Cognitive Development 47

Strengths and Weaknesses of Piaget's Theory 49

LEARNING THEORIES 50

Skinner's Operant-Conditioning Theory 51

Bandura's Cognitive Social Learning Theory 51

Strengths and Weaknesses of Learning Theory 53

ETHOLOGICAL THEORY 54

Ethological Studies of Attachment in Birds 55

Ethology and Human Development 56

Strengths and Weaknesses of Ethological Theory 56

CONTEXTUAL-DIALECTICAL PERSPECTIVES ON DEVELOPMENT 57

Riegel's Dialectical Theory 58

Strengths and Weaknesses of Contextual-Dialectical Theory 60

THEORIES AND WORLD VIEWS 61  
 APPLICATIONS: THERE'S NOTHING SO  
 USEFUL AS A GOOD THEORY 62  
 REFLECTIONS 63  
 SUMMARY POINTS 64  
 KEY TERMS 66

# 3

## THE GENETICS OF LIFE-SPAN DEVELOPMENT 67

SPECIES HEREDITY, EVOLUTION, AND  
 HUMAN DEVELOPMENT 68  
 The Workings of Evolution 69  
 Modern Evolutionary Theory:  
 Sociobiology 70

## THE WORKINGS OF INDIVIDUAL HEREDITY 71

Conception and the Genetic Code 71  
 Translation of the Genetic Code 74  
 Mechanisms of Inheritance 75  
 Mutations 79

## Chromosome Abnormalities 79

## BEHAVIOR GENETICS: ACCOUNTING FOR INDIVIDUAL DIFFERENCES IN TRAITS 80

Experimental Breeding of Animals 81  
 Family Studies 81  
 Twin Studies 81  
 Adoption Studies 83  
 THE INFANT 83  
 Mental Ability 83  
 Personality 84

THE CHILD 85  
 Mental Ability 85  
 Personality 86  
 THE ADOLESCENT 86  
 Mental Ability 86  
 Personality 87  
 THE ADULT 88  
 Mental Ability 88  
 Personality 88  
 The Genetics of Aging 89  
 A LIFE-SPAN PERSPECTIVE ON GENES  
 AND ENVIRONMENT 91  
 Both Genes and Environment Are at  
 Work over the Entire Life Span 91  
 The Relative Contributions of Genes and  
 Environment Change over the Life  
 Span 91  
 Some Traits Are More Heritable Than  
 Others 92  
 Heredity and Environment Truly  
 Interact 92  
 APPLICATIONS: GENETIC COUNSELING  
 AND THE TREATMENT OF GENETIC  
 DEFECTS 95  
 Establishing the Likelihood of a  
 Defect 95  
 Prenatal Detection of Abnormalities 95  
 Treating Hereditary Disorders 96  
 REFLECTIONS 97  
 SUMMARY POINTS 97  
 KEY TERMS 98

# 4

## ENVIRONMENT AND LIFE-SPAN DEVELOPMENT 99

WHAT IS ENVIRONMENT? 101  
 Physical Versus Social Environment 101  
 The Environment as Life Events or  
 Transitions 102  
 The Environment as a Series of  
 Interrelated Systems 102  
 PRENATAL DEVELOPMENT AND THE  
 PRENATAL ENVIRONMENT 104  
 Stages of Prenatal Development 104  
 The Mother's Age, Emotional State, and  
 Nutrition 106  
 Teratogens 108  
 THE PERINATAL ENVIRONMENT 112  
 The Birth Process 112  
 Hazards During the Birth Process 113  
 The Social Environment Surrounding  
 Birth 114  
 A Big Issue: Are Negative Effects of the  
 Prenatal and Perinatal Environments  
 Long Lasting? 116  
 THE INFANT 118  
 THE CHILD 120  
 Socialization Goals 120  
 Cultural Variation and Our  
 Understanding of Development 121  
 THE ADOLESCENT 122  
 THE ADULT 124  
 Living Out Adult Lives: Age Norms and  
 Life Transitions 124  
 Growing Old in a Changing World 125  
 APPLICATIONS: GETTING LIFE OFF TO A  
 GOOD START 127  
 Before Birth 127  
 Giving Birth 128

After the Birth 129  
REFLECTIONS 130  
SUMMARY POINTS 130  
KEY TERMS 131

# 5

## THE PHYSICAL SELF 133

THE BODY'S SYSTEMS AND DEVELOPMENT 134  
The Endocrine System and Growth 135  
The Nervous System and Behavior 136  
THE INFANT 137  
A Profile of the Newborn 137  
The Body: Physical Growth 140  
The Brain 141  
Physical Behavior 142  
THE CHILD 144  
The Body 145  
The Brain 145  
Physical Behavior 146  
THE ADOLESCENT 147  
The Body: Physical and Sexual Maturation 147  
The Brain 151  
Physical Behavior 151  
THE ADULT 152  
The Body 152  
The Reproductive System 154

The Aging Brain 157  
Physical Behavior 158  
Aging, Disease, Disuse, and Abuse 160  
APPLICATIONS: NUTRITION ACROSS THE LIFE SPAN 161  
REFLECTIONS 163  
SUMMARY POINTS 164  
KEY TERMS 164

# 6

## PERCEPTION 165

ISSUES IN PERCEPTUAL DEVELOPMENT 166  
THE INFANT 168  
Vision 168  
Hearing 174  
Taste and Smell 176  
Touch, Temperature, and Pain 176  
Intersensory Perception 177  
The Infant in Perspective 178  
THE CHILD 179  
The Development of Attention 179  
Perception of Form and Learning to Read 180  
THE ADOLESCENT 181  
THE ADULT 183  
Vision 183  
Hearing 186  
Taste and Smell 188  
Touch, Temperature, and Pain 189  
A Summing Up 190  
NATURE, NURTURE, AND PERCEPTUAL DEVELOPMENT 190  
Early Experience and Perceptual Development 190

Social and Cultural Influences on Later Perceptual Development 191  
Perceptual Styles and Experience 192  
APPLICATIONS: AIDING HEARING-IMPAIRED PEOPLE, YOUNG AND OLD 193  
REFLECTIONS 194  
SUMMARY POINTS 195  
KEY TERMS 195

# 7

## COGNITION AND LANGUAGE 197

PIAGET'S APPROACH TO COGNITIVE DEVELOPMENT 198  
What Is Intelligence? 199  
How Does Intelligence Develop? 199  
MASTERING LANGUAGE 201  
What Is Language? 201  
How Does Language Develop? 202  
THE INFANT 202  
Cognitive Development: The Sensorimotor Stage 202  
Language Takes Root 205  
THE CHILD 209  
The Preschool Child: Piaget's Preoperational Stage 209  
The School-Aged Child: Piaget's Stage of Concrete Operations 212  
The Language Explosion of the Preschool Years 213



Refining Language Skills in the School Years 214

How Language Develops: Some Theories 215

THE ADOLESCENT 220

The Formal Operations Stage of Cognitive Development 220

Language Skills in Adolescence 223

THE ADULT 224

Limitations in Adult Cognitive Performance 224

Growth Beyond Formal Operations? 225

Aging and Cognitive Performance 229

Language Skills in Adulthood 229

PIAGET IN PERSPECTIVE 230

Piaget's Contributions 230

Challenges to Piaget 231

APPLICATIONS: IMPROVING COGNITIVE FUNCTIONING 232

REFLECTIONS 233

SUMMARY POINTS 233

KEY TERMS 234

# 8

## LEARNING AND INFORMATION PROCESSING 235

BASIC LEARNING PROCESSES 236

Habituation 236

Classical Conditioning 236

Operant (Instrumental) Conditioning 237

Observational Learning 239

Basic Learning Processes in Perspective 241

THE INFORMATION-PROCESSING APPROACH 242

THE INFANT 245

Can Young Infants Learn? 245

How Well Do Infants Remember What They Have Learned? 245

Basic Learning Processes After Infancy 246

THE CHILD 247

Learning and Memory over the Childhood Years 247

Problem Solving in Childhood 253

THE ADOLESCENT 256

THE ADULT 257

Adult Learning, Memory, and Problem Solving: Developing Expertise 257

Do You Lose It in Old Age? 258

APPLICATIONS: IMPROVING MEMORY 264

REFLECTIONS 266

SUMMARY POINTS 266

KEY TERMS 267

# 9

## MENTAL ABILITIES 269

WHAT IS INTELLIGENCE? 270

The Psychometric Approach to Intelligence 270

A Modern Information-Processing Theory of Intelligence 272

HOW IS INTELLIGENCE MEASURED? 273

Alfred Binet and the Stanford-Binet Test 274

The Wechsler Scales 275

The Distribution of IQ Scores 275

Intelligence Testing Today 275

THE INFANT 276

Developmental Quotients 276

Infant Intelligence and Later Intelligence 276

THE CHILD 277

How Stable Are IQ Scores During Childhood? 277

How Well Do IQ Scores Predict School Achievement? 278

THE ADOLESCENT 280

Continuity Between Childhood and Adulthood 280

The Timing of Puberty and Mental Abilities 280

THE ADULT 281

Does IQ Affect Occupational Success in Adulthood? 281

How Do Intellectual Abilities Change with Age? 282

What Factors Are Associated with Declining Intellectual Abilities in Old Age? 285

FACTORS THAT INFLUENCE IQ SCORES 286

Home Environment and IQ 286

Birth Order, Family Configuration, and IQ 287

Social Class Differences in IQ 288

Racial and Ethnic Differences in IQ 288

THE EXTREMES OF INTELLIGENCE 290  
 Giftedness 290  
 Mental Retardation 292  
 CREATIVITY AND SPECIAL ABILITIES 293  
 What Is Creativity? 293  
 Creativity in Childhood and Adolescence 294  
 Creative Achievement During Adulthood 296  
 APPLICATIONS: BOOSTING INTELLECTUAL PERFORMANCE ACROSS THE LIFE SPAN 298  
 REFLECTIONS 300  
 SUMMARY POINTS 301  
 KEY TERMS 301

# 10

## SELF-CONCEPTIONS, PERSONALITY, AND EMOTIONAL EXPRESSION 303

CONCEPTUALIZING THE SELF 304  
 Theories of Personality Development 304  
 Self-Concept and Self-Esteem 306  
 THE INFANT 306  
 The Emerging Self 306  
 The Budding Personality 308  
 THE CHILD 309  
 Elaborating on a Sense of Self 309  
 Self-Esteem 311  
 The Personality Stabilizes 312

The Self and Erikson's Stages of Psychosocial Development 312  
 THE ADOLESCENT 314  
 The Self-Concept: Becoming a Personality Theorist 314  
 Adolescent Self-Esteem 315  
 Forming a Sense of Identity 315  
 THE ADULT 319  
 Self-Esteem and Self-Conceptions in Adulthood 319  
 Stability and Change in Adult Personality 319  
 Psychosocial Growth During Adulthood 325  
 THE EMOTIONAL SELF 327  
 The Emergence of Emotions in Infancy 327  
 Learning About Emotions and How to Control Them 329  
 Emotions in Adult Life 330  
 APPLICATIONS: BOOSTING SELF-ESTEEM THROUGHOUT THE LIFE SPAN 331  
 REFLECTIONS 333  
 SUMMARY POINTS 333  
 KEY TERMS 334

# 11

## GENDER ROLES AND SEXUALITY 335

MALE AND FEMALE: SORTING OUT THE DIFFERENCES 336  
 Gender Norms and Stereotypes 337  
 Actual Psychological Differences Between the Sexes 337

THE INFANT 339  
 Sex Differences and Early Gender-Role Learning 340  
 Infant Sexuality 340  
 THE CHILD 341  
 Gender-Role Development 341  
 Theories of Gender-Role Development 343  
 Childhood Sexuality 351  
 THE ADOLESCENT 354  
 Adhering to Gender Roles 354  
 Adolescent Sexuality 355  
 THE ADULT 357  
 Sex Differences in the Achievement of Identity and Intimacy 357  
 Gender Roles in Adulthood 358  
 Masculinity, Femininity, and Androgyny 359  
 Adult Sexuality 362  
 APPLICATIONS: CHANGING GENDER-ROLE ATTITUDES AND BEHAVIOR 365  
 REFLECTIONS 366  
 SUMMARY POINTS 366  
 KEY TERMS 367

# 12

## CHOICES: MOTIVES AND MORALS 369

HUMAN MOTIVES 370  
 PERSPECTIVES ON MORAL DEVELOPMENT 371  
 Moral Affect: Psychoanalytic Theory 371

# 13

## PARTICIPATION IN THE SOCIAL WORLD 403

### PERSPECTIVES ON THE SIGNIFICANCE OF RELATIONSHIPS IN LIFE-SPAN DEVELOPMENT 404

What Do We Gain from Social Relationships? 404

Which Relationships Are Most Critical to Development? 405

#### THE INFANT 407

Attachment: The Emergence of the First Relationship 407

Theories of Attachment 411

How Does the Quality of Early Attachments Affect Later Development? 413

Peer Relations During Infancy 417

#### THE CHILD 418

Growth in Social Cognition 418

Children's Social Networks 419

Children's Friendships 421

Peer Acceptance and Popularity 422

A Summing Up: The Contributions of Peers to Child Development 422

#### THE ADOLESCENT 424

Social Cognition 424

Social Networks: The Transition from Same-Sex Peer Groups to Dating Relationships 425

Adolescent Friendships 426

Parent and Peer Influence on Adolescents 427

#### THE ADULT 428

Social Cognition 428

Social Networks 429

Romantic Relationships 430

Adult Friendships 432

Adult Relationships and Adult Development 433

APPLICATIONS: HELPING THE SOCIALLY ISOLATED 434

REFLECTIONS 435

SUMMARY POINTS 436

KEY TERMS 436

# 14

## THE FAMILY 437

### UNDERSTANDING THE FAMILY 438

The Family as a System 438

The Family as a Changing System: The Family Life Cycle 440

A Changing Family System in a Changing World 440

#### THE INFANT 441

The Mother/Infant Relationship 441

The Father/Infant Relationship 442

Mothers, Fathers, and Infants: The System at Work 443

#### THE CHILD 444

Dimensions of Child Rearing 444

Sibling Relationships 446

#### THE ADOLESCENT 449

The Generation Gap: Is There One? 449

Moral Reasoning: Cognitive Developmental Theory 372

Moral Behavior: Social Learning Theory 375

#### THE INFANT 376

What Motivates Infants? 377

Moral Development in Infancy 378

#### THE CHILD 379

Motivation During Childhood: A Look at Achievement Motivation 379

Moral Development During Childhood 383

#### THE ADOLESCENT 387

Achievement Motivation During Adolescence 387

Moral Development in the Teen Years 388

#### THE ADULT 389

Motivations During the Adult Years 389

Moral Development During the Adult Years 392

### KOHLBERG'S THEORY OF MORAL DEVELOPMENT IN PERSPECTIVE 392

Evidence Supportive of Kohlberg's Stage Sequence 393

Factors That Promote Moral Growth 393

Is Kohlberg's Theory Biased? 394

Is Kohlberg's Theory Incomplete? 395

### RELIGIOUS DEVELOPMENT AND THE SEARCH FOR MEANING IN LIFE 396

Involvement in Religion 397

Age Differences in the Nature of Faith 398

APPLICATIONS: STIMULATING MORAL DEVELOPMENT 398

REFLECTIONS 400

SUMMARY POINTS 401

KEY TERMS 401

How Do Adolescents Feel About Their Parents? 449

The Quest for Autonomy: Renegotiating the Parent/Child Relationship 450

THE ADULT 451

Establishing the Marriage 451

New Parenthood and the Child-Rearing Family 452

The Empty Nest 454

Grandparenthood 455

Changing Family Relationships During Adulthood 456

VARIATIONS ON THE FAMILY THEME 460

Singles 460

Childless Married Couples 461

Families Experiencing Divorce 462

Remarriage and Reconstituted Families 464

APPLICATIONS: CONFRONTING THE PROBLEM OF FAMILY VIOLENCE 465

Why Does Family Violence Occur? 466

How Do We Solve the Problem? 467

REFLECTIONS 469

SUMMARY POINTS 469

KEY TERMS 470

# 15

LIFESTYLES: PLAY, SCHOOL, AND WORK 471

PLAY AND WORK 472

THE INFANT 473

Play 473

Alternative Care Settings and Infant Development 474

THE CHILD 476

Play 476

School 478

The Changing Context of Child Development 483

Work: What Do You Want to Be When You Grow Up? 486

THE ADOLESCENT 487

Adolescent Lifestyles and Leisure Activities 487

School: Paths to Adulthood 488

Work: Vocational Exploration and Choice 489

THE ADULT 491

Daniel Levinson's Conception of Adult Development 491

Work: Career Paths During Adulthood 491

Women, Work, and the Family 496

What Does Work Contribute to Adult Development? 498

Leisure 499

The Keys to Successful Aging: Activity or Disengagement? 499

APPLICATIONS: ENHANCING LIFESTYLES 501

REFLECTIONS 502

SUMMARY POINTS 502

KEY TERMS 503

# 16

PSYCHOLOGICAL DISORDERS THROUGHOUT THE LIFE SPAN 505

WHAT MAKES BEHAVIOR ABNORMAL? 506

Criteria for Diagnosing Psychological Disorders 506

Developmental Psychopathology 507

THE INFANT 509

Infantile Autism 509

Depression in Infancy 511

THE CHILD 512

Hyperactivity 513

Depression in Childhood 515

Childhood Disorders and the Family 517

Do Childhood Problems Persist? 517

THE ADOLESCENT 518

Is Adolescence Really a Period of Storm and Stress? 519

Eating Disorders 519

Juvenile Delinquency 521

Drinking and Drug Use 522

Depression and Suicidal Behavior in Adolescence 523

THE ADULT 524

Stress and Coping in Adulthood 524

Depression in Adulthood 527

Old Age and Dementia 530

APPLICATIONS 531

Treating Children and Adolescents 531

Treating Elderly Adults 533

REFLECTIONS 534

SUMMARY POINTS 535

KEY TERMS 536