EXPERIENCE

Human Development

Diane E. **PAPALIA**

Gabriela **MARTORELL**

Mc Graw Hill Education

EXPERIENCE THE Human Side

Experience Human Development helps students experience the human side of development by exposing them to culture and diversity, immersing them in practical application, and helping them study smarter through personalized learning and reporting.

BETTER DATA, SMARTER REVISION, IMPROVED RESULTS

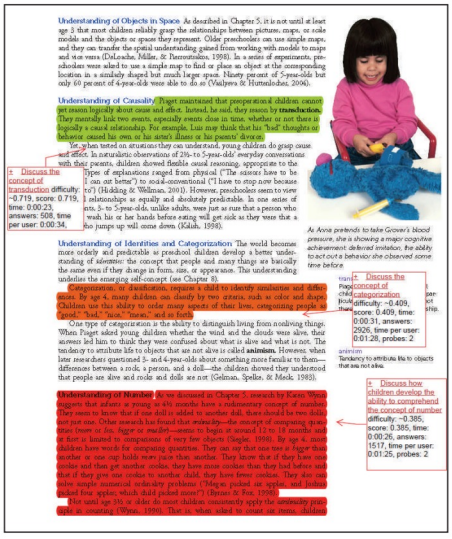
Students helped inform the revision strategy:

STEP 1. Over three years, data points showing concepts that caused students the most difficulty were anonymously collected from McGraw-Hill Connect® Lifespan Development's LearnSmart® product.

STEP 2. The data from *LearnSmart* was provided to the authors in the form of a *Heat Map*, which graphically illustrated "hot spots" in the text that impacted student learning (see image, right).

STEP 3. The authors used the *Heat Map* data to refine the content and reinforce student comprehension in the new edition. Additional quiz questions and assignable activities were created for use in Connect Lifespan Development to further support student success.

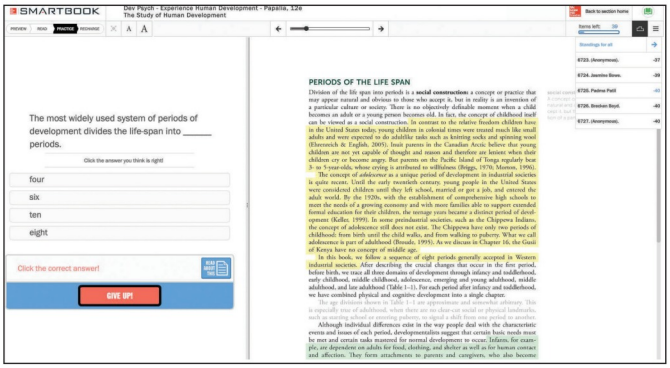
RESULT: Because the *Heat Map* gave the authors empirically-based feedback at the paragraph and even sentence level, they developed the new edition using precise student data that pinpointed concepts that caused students the most difficulty.



LearnSmart is an adaptive learning program designed to help students learn faster, study smarter, and retain more knowledge for greater success. Distinguishing what students know from what they don't, and focusing on concepts they are most likely to forget, LearnSmart continuously adapts to each student's needs by building an individual learning path. Millions of students have answered over a billion questions in LearnSmart since 2009, making it the most widely used and intelligent adaptive study tool that's proven to strengthen memory recall, keep students in class, and boost grades.

# of Development

Fueled by LearnSmart, SmartBook™ is the first and only adaptive reading experience currently available.



- **Make It Effective.** SmartBook creates a personalized reading experience by highlighting the most impactful concepts a student needs to learn at that moment in time. This ensures that every minute spent with SmartBook is returned to the student as the most value-added minute possible.
- **Make It Informed.** Real-time reports quickly identify the concepts that require more attention from individual students—or the entire class.

PERSONALIZED GRADING, ON THE GO, MADE EASIER

The first and only analytics tool of its kind, Connect Insight™ is a series of visual data displays that provides at-a-glance information regarding how your class is doing.

Designed for mobile devices, Connect Insight travels from office to classroom, available on demand wherever and whenever it's needed.

REAL PEOPLE, REAL WORLD, REAL LIFE

McGraw-Hill's Milestones allows students to watch life as it unfolds, from infancy to adulthood.

In Milestones of Child Development, students track the early stages of physical, social, and emotional development. By watching one child over time or comparing various children, Milestones provides a unique, experiential learning environment.

In Milestones: Transitions, students meet a series of people—from teenagers to individuals in late adulthood—to hear individual perspectives on changes that occur throughout the lifespan.

EXPERIENCE Human Development

THIRTEENTH EDITION

Diane E. **PAPALIA**

Gabriela **MARTORELL**

Mc Graw Hill Education

EXPERIENCE HUMAN DEVELOPMENT: THIRTEENTH EDITION

Published by McGraw-Hill Education, 2 Penn Plaza, New York, NY 10121.

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 0 DOW/DOW 1 0 9 8 7 6 5

ISBN 978-0-07-786184-1
MHID 0-07-786184-1

Senior Vice President, Products & Markets: *Kurt L. Strand*
Vice President, General Manager, Products & Markets: *Michael Ryan*
Vice President, Content Production & Technology Services: *Kimberly Meriwether David*
Managing Director: *William Glass*
Executive Director: *Krista Bettino*
Director, Product Development: *Meghan Campbell*
Senior Product Developer: *Judith Kromm*
Marketing Managers: *AJ Laferrera, Ann Helgerson*
Lead Product Developer: *Dawn Groundwater*
Director, Content Production: *Terri Schiesl*
Program Manager: *Debra Hash*
Content Project Managers: *Mary E. Powers, Danielle Clement*
Buyer: *Jennifer Pickel*
Design: *Debra Kubiak*
Content Licensing Specialists: *Shawntel Schmitt, Ann Marie Jannette*
Cover Image: © *RubberBall Productions Collection: Vetta/Getty Images RF*
Compositor: *Aptara, Inc.*
Typeface: *10/12 Times LT Std Regular*
Printer: *R. R. Donnelley*

All credits appearing on page or at the end of the book are considered to be an extension of the copyright page.

Library of Congress Cataloging-in-Publication Data

Papalia, Diane E.
[Human development]
Experience human development/Diane E. Papalia, Ruth Duskin Feldman, with Gabriela Martorell. —Thirteenth edition.
pages cm
ISBN 978-0-07-786184-1 (alk. paper)
1. Developmental psychology. 2. Developmental psychobiology. I. Feldman, Ruth Duskin. II. Martorell, Gabriela. III. Title.
BF713.P35 2015
155—dc23 2014020140

www.mhhe.com

about the authors

Diane E. Papalia As a professor, Diane E. Papalia taught thousands of undergraduates at the University of Wisconsin–Madison. She received her bachelor's degree, majoring in psychology, from Vassar College and both her master's degree in child development and family relations and her PhD in life-span developmental psychology from West Virginia University. She has published numerous articles in such professional journals as *Human Development, International Journal of Aging and Human Development, Sex Roles, Journal of Experimental Child Psychology,* and *Journal of Gerontology.* Most of these papers have dealt with her major research focus, cognitive development from childhood through old age. She is especially interested in intelligence in old age and factors that contribute to the maintenance of intellectual functioning in late adulthood. She is a Fellow in the Gerontological Society of America. She is the coauthor of *Human Development,* now in its eleventh edition, with Sally Wendkos Olds and Ruth Duskin Feldman; of *Adult Development and Aging,* now in its third edition, with Harvey L. Sterns, Ruth Duskin Feldman, and Cameron J. Camp; and of *Child Development: A Topical Approach* with Dana Gross and Ruth Duskin Feldman.

Gabriela Alicia Martorell was born in Seattle, Washington, but moved as a toddler to Guatemala. At eight, she moved back to the United States and lived in Northern California until leaving for her undergraduate training at University of California, Davis. After obtaining her BS in Psychology, she earned her PhD in Developmental and Evolutionary Psychology at University of California, Santa Barbara. Since that time, she has served a number of learning institutions including Portland State University, Norfolk State University, and her current full-time position at Virginia Wesleyan College. Gabi has taught graduate and undergraduate courses in introductory psychology, research methods, life-span human development, infant development, child development, adolescent development, adulthood and aging, cultural issues in psychology, evolutionary psychology, developmental psychopathology, and community-based learning courses in Early Childhood Education and Adult Development and Aging. She is committed to teaching, mentoring, and advising. She is currently conducting research on attachment processes in immigrant Latino/a adolescents that was funded by the Virginia Foundation for Independent Colleges, and is Co-Investigator for a National Science Foundation grant focused on student retention and success in science, technology, engineering, and math. She lives in Virginia with her husband Michael, daughters Amalia and Clara, and two dogs.

To Charles Robert Zappa,
with love.

To Susy and Rey,
my parents, especially for putting up with me
during my teenage years.

brief contents

About the Authors *iii*

Preface *xiv*

part 1 About Human Development

1 The Study of Human Development *2*

2 Theory and Research *20*

part 2 Beginnings

3 Forming a New Life *48*

4 Birth and Physical Development during the First Three Years *86*

5 Cognitive Development during the First Three Years *126*

6 Psychosocial Development during the First Three Years *160*

part 3 Early Childhood

7 Physical and Cognitive Development in Early Childhood *194*

8 Psychosocial Development in Early Childhood *230*

part 4 Middle Childhood

9 Physical and Cognitive Development in Middle Childhood *258*

10 Psychosocial Development in Middle Childhood *294*

part 5 Adolescence

11 Physical and Cognitive Development in Adolescence *322*

12 Psychosocial Development in Adolescence *356*

part 6 Emerging and Young Adulthood

13 Physical and Cognitive Development in Emerging and Young Adulthood *384*

14 Psychosocial Development in Emerging and Young Adulthood *412*

part 7 Middle Adulthood

15 Physical and Cognitive Development in Middle Adulthood *440*

16 Psychosocial Development in Middle Adulthood *468*

part 8 Late Adulthood

17 Physical and Cognitive Development in Late Adulthood *496*

18 Psychosocial Development in Late Adulthood *528*

part 9 The End of Life

19 Dealing with Death and Bereavement *556*

connect McGraw-Hill Psychology APA Documentation Style Guide

Glossary *G-1*

Bibliography *B-1*

Credits *C-1*

Name Index *I-1*

Subject Index *I-23*

contents

About the Authors *iii*

Preface *xiv*

part 1 About Human Development

chapter 1

The Study of Human Development *2*

Human Development: An Ever-Evolving Field *3*

- Studying the Life Span *3*
- Human Development Today *3*

The Study of Human Development: Basic Concepts *4*

- Domains of Development *4*
- Periods of the Life Span *5*

Influences on Development *8*

- Heredity, Environment, and Maturation *8*
- Contexts of Development *9*
- Normative and Nonnormative Influences *14*
- Timing of Influences: Critical or Sensitive Periods *15*

The Life-Span Developmental Approach *17*

summary and key terms *18*

Box 1 Window on the World Children of Immigrant Families *13*

Box 2 Research in Action Is There a Critical Period for Language Acquisition? *16*

chapter 2

Theory and Research *20*

Basic Theoretical Issues *21*

- Issue 1: Is Development Active or Reactive? *21*
- Issue 2: Is Development Continuous or Discontinuous? *22*

Theoretical Perspectives *23*

- Perspective 1: Psychoanalytic *23*
- Perspective 2: Learning *27*
- Perspective 3: Cognitive *29*
- Perspective 4: Contextual *32*
- Perspective 5: Evolutionary/ Sociobiological *33*
- A Shifting Balance *34*

Research Methods *35*

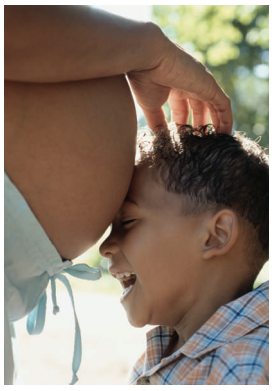
- Quantitative and Qualitative Research *35*
- Sampling *36*
- Forms of Data Collection *36*
- Evaluating Quantitative and Qualitative Research *38*
- Basic Research Designs *39*
- Developmental Research Designs *43*

Ethics of Research *46*

summary and key terms *46*

Box 1 Window on the World Purposes of Cross-Cultural Research *41*

part 2 Beginnings



chapter 3

Forming a New Life *48*

Conceiving New Life *49*

- How Fertilization Takes Place *49*
- What Causes Multiple Births? *50*

Mechanisms of Heredity *50*

- The Genetic Code *51*

What Determines Sex? 52
Patterns of Genetic Transmission 53
Genetic and Chromosomal Abnormalities 56
Genetic Counseling and Testing 60

Nature and Nurture: Influences of Heredity and Environment 62
Studying Heredity and Environment 62
How Heredity and Environment Work Together 63
Some Characteristics Influenced by Heredity and Environment 66

Prenatal Development 68
Stages of Prenatal Development 69
Environmental Influences: Maternal Factors 74
Environmental Influences: Paternal Factors 81

Monitoring and Promoting Prenatal Development 82
Disparities in Prenatal Care 82
The Need for Preconception Care 84

summary and key terms 84

Box 1 Research in Action Genetic Testing 61

chapter 4

Birth and Physical Development during the First Three Years 86

Childbirth and Culture: How Birthing Has Changed 87

The Birth Process 89
Stages of Childbirth 89
Electronic Fetal Monitoring 90
Vaginal versus Cesarean Delivery 90
Medicated versus Nonmedicated Delivery 91

The Newborn Baby 92
Size and Appearance 92
Body Systems 93
Medical and Behavioral Assessment 94
States of Arousal 95

Complications of Childbirth 96
Low Birth Weight 96
Can a Supportive Environment Overcome Effects of Birth Complications? 99
Postmaturity 100
Stillbirth 101

Survival and Health 101
Reducing Infant Mortality 101
Immunization for Better Health 104

Early Physical Development 105
Principles of Development 105
Growth Patterns 106
Nutrition 107
The Brain and Reflex Behavior 109
Early Sensory Capacities 116

Motor Development 118
Milestones of Motor Development 118
Motor Development and Perception 120
Eleanor and James Gibson's Ecological Theory of Perception 121
How Motor Development Occurs: Thelen's Dynamic Systems Theory 122
Cultural Influences on Motor Development 122

summary and key terms 123

Box 1 Research in Action Lessons from Neuroscience 110

Box 2 Research in Action The Autism "Epidemic" 113

chapter 5

Cognitive Development during the First Three Years 126

Studying Cognitive Development: Six Approaches 127

Behaviorist Approach: Basic Mechanics of Learning 127
Classical and Operant Conditioning 127
Infant Memory 128

Psychometric Approach: Developmental and Intelligence Testing 129
Testing Infants and Toddlers 130
Assessing the Impact of the Early Home Environment 130
Early Intervention 131

Piagetian Approach: The Sensorimotor Stage 132
Substages of the Sensorimotor Stage 133
Do Imitative Abilities Develop Earlier Than Piaget Thought? 135
Development of Knowledge about Objects and Symbols 137
Evaluating Piaget's Sensorimotor Stage 138

Information-Processing Approach: Perceptions and Representations 139
Habituation 139
Visual and Auditory Perceptual and Processing Abilities 140
Information Processing as a Predictor of Intelligence 141
Information Processing and the Development of Piagetian Abilities 143
Evaluating Information-Processing Research on Infants 146

Cognitive Neuroscience Approach: The Brain's Cognitive Structures 146

Social-Contextual Approach: Learning from Interactions with Caregivers 147
Language Development 148
Sequence of Early Language Development 149
Characteristics of Early Speech 152
Classic Theories of Language Acquisition: The Nature-Nurture Debate 153
Influences on Early Language Development 155
Preparing for Literacy: The Benefits of Reading Aloud 157
summary and key terms 158
Box 1 Research in Action Do Infants and Toddlers Watch Too Much Television? 142

chapter 6

Psychosocial Development during the First Three Years 160
Foundations of Psychosocial Development 161
Emotions 161
Temperament 165
Earliest Social Experiences: The Infant in the Family 168
Gender: How Different Are Baby Boys and Girls? 170
Developmental Issues in Infancy 171
Developing Trust 171
Developing Attachments 171
Emotional Communication with Caregivers: Mutual Regulation 176
Social Referencing 178
Developmental Issues in Toddlerhood 178
The Emerging Sense of Self 178
Development of Autonomy 179
The Roots of Moral Development: Socialization and Internalization 180
Contact with Other Children 184
Siblings 184
Sociability with Nonsiblings 184
Children of Working Parents 185
Effects of Maternal Employment 185
Early Child Care 186
Maltreatment: Abuse and Neglect 188
Maltreatment in Infancy and Toddlerhood 189
Contributing Factors: An Ecological View 189
Helping Families in Trouble 190
Long-Term Effects of Maltreatment 191
summary and key terms 192
Box 1 Research in Action How Postpartum Depression Affects Early Development 177
Box 2 Window on the World Are Struggles with Toddlers Necessary? 181

part 3 Early Childhood

chapter 7

Physical and Cognitive Development in Early Childhood 194
PHYSICAL DEVELOPMENT 195
Aspects of Physical Development 195
Bodily Growth and Change 195
Sleep Patterns and Problems 196
Brain Development 198
Motor Skills 198
Health and Safety 200
Preventing Obesity 201
Undernutrition 201
Food Allergies 203
Deaths and Accidental Injuries 203
Health in Context: Environmental Influences 204
COGNITIVE DEVELOPMENT 207
Piagetian Approach: The Preoperational Child 207
Advances of Preoperational Thought 207
Immature Aspects of Preoperational Thought 210
Do Young Children Have Theories of Mind? 212
Information-Processing Approach: Memory Development 215
Basic Processes and Capacities 216
Recognition and Recall 216
Forming and Retaining Childhood Memories 217
Intelligence: Psychometric and Vygotskian Approaches 218
Traditional Psychometric Measures 218
Influences on Measured Intelligence 219
Testing and Teaching Based on Vygotsky's Theory 220
Language Development 221
Vocabulary 221
Grammar and Syntax 221
Pragmatics and Social Speech 222
Private Speech 222
Delayed Language Development 223
Preparation for Literacy 223
Media and Cognition 224

Early Childhood Education 225
Types of Preschools 225
Compensatory Preschool Programs 225
The Child in Kindergarten 227
summary and key terms 228
Box 1 Research in Action Food Security 202
Box 2 Window on the World Surviving the First Five Years of Life 205

chapter 8
Psychosocial Development in Early Childhood 230
The Developing Self 231
The Self-Concept and Cognitive Development 231
Self-Esteem 232
Understanding and Regulating Emotions 233
Erikson: Initiative versus Guilt 235
Gender 235
Gender Differences 235
Perspectives on Gender Development 236
Play: The Business of Early Childhood 242
Cognitive Levels of Play 244
The Social Dimension of Play 245
How Gender Influences Play 246
How Culture Influences Play 247
Parenting 247
Forms of Discipline 247
Parenting Styles 249
Special Behavioral Concerns 251
Relationships with Other Children 254
Sibling Relationships 254
The Only Child 255
Playmates and Friends 256
summary and key terms 256
Box 1 Research in Action Does Play Have an Evolutionary Basis? 243

part 4 Middle Childhood

chapter 9
Physical and Cognitive Development in Middle Childhood 258
PHYSICAL DEVELOPMENT 259
Aspects of Physical Development 259
Height and Weight 259
Nutrition and Sleep 260
Brain Development 260
Motor Development and Physical Play 261
Health, Fitness, and Safety 263
Obesity and Body Image 263
Other Medical Conditions 265
Accidental Injuries 266
COGNITIVE DEVELOPMENT 267
Piagetian Approach: The Concrete Operational Child 267
Cognitive Advances 267
Influences of Neurological Development, Culture, and Schooling 270
Moral Reasoning 271
Information-Processing Approach: Planning, Attention, and Memory 272
How Do Executive Skills Develop? 272
Selective Attention 272
Working Memory 273
Metamemory: Understanding Memory 273
Mnemonics: Strategies for Remembering 273
Information Processing and Piagetian Tasks 274
Psychometric Approach: Assessment of Intelligence 274
The IQ Controversy 275
Influences on Intelligence (IQ) 275
Is There More Than One Intelligence? 277
Other Directions in Intelligence Testing 279
Language and Literacy 280
Vocabulary, Grammar, and Syntax 280
Pragmatics: Knowledge about Communication 280
Second-Language Learning 281
Becoming Literate 281
The Child In School 283
Entering First Grade 283
Influences on School Achievement 283
Educating Children with Special Needs 286
Children with Learning Problems 287
Gifted Children 289
summary and key terms 291
Box 1 Research in Action Do Barbie Dolls Affect Girls' Body Image? 264

chapter 10
Psychosocial Development in Middle Childhood 294
The Developing Self 295
Self-Concept Development: Representational Systems 295

Industry versus Inferiority 295
Emotional Growth and Prosocial Behavior 296
The Child in the Family 297
Family Atmosphere 297
Family Structure 300
Sibling Relationships 306
The Child in the Peer Group 306
Positive and Negative Effects of Peer Relations 306
Popularity 307
Friendship 308
Aggression and Bullying 310
Mental Health 313
Common Emotional Problems 313
Treatment Techniques 315
Stress and Resilience 316
summary and key terms 320
Box 1 Research in Action Pass the Milk: Family Mealtimes and Child Well-Being 298
Box 2 Research in Action Talking to Children about Terrorism and War 318

part 5 Adolescence

chapter 11

Physical and Cognitive Development in Adolescence 322
Adolescence: A Developmental Transition 323
Adolescence as a Social Construction 323
Adolescence: A Time of Opportunities and Risks 323
PHYSICAL DEVELOPMENT 325
Puberty 325
How Puberty Begins: Hormonal Changes 325
Timing, Signs, and Sequence of Puberty and Sexual Maturity 326
The Adolescent Brain 329
Physical and Mental Health 330
Sleep Needs and Problems 331
Nutrition and Eating Disorders 331
Use and Abuse of Drugs 335
Depression 338
Death in Adolescence 339
COGNITIVE DEVELOPMENT 340
Aspects of Cognitive Maturation 340
Piaget's Stage of Formal Operations 340
Changes in Information Processing 342
Language Development 343
Moral Reasoning: Kohlberg's Theory 343
An Ethic of Care: Gilligan's Theory 346
Prosocial Behavior and Volunteer Activity 346
Educational and Vocational Issues 347
Influences on School Achievement 348
Dropping Out of High School 351
Preparing for Higher Education or Vocations 352
summary and key terms 354
Box 1 Window on the World The Globalization of Adolescence 324
Box 2 Research in Action Multitasking and Gen M 351

chapter 12

Psychosocial Development in Adolescence 356
The Search for Identity 357
Erikson: Identity versus Identity Confusion 357
Marcia: Identity Status—Crisis and Commitment 358
Gender Differences in Identity Formation 360
Ethnic Factors in Identity Formation 360
Sexuality 362
Sexual Orientation and Identity 363
Sexual Behavior 364
Sexually Transmitted Infections (STIs) 366
Teenage Pregnancy and Childbearing 367
Relationships with Family, Peers, and Adult Society 369
Is Adolescent Rebellion a Myth? 370
Changing Time Use and Changing Relationships 370
Adolescents and Parents 371
Adolescents and Siblings 375
Adolescents and Peers 376
Antisocial Behavior and Juvenile Delinquency 379
Becoming a Delinquent: Genetic and Neurological Factors 379
Becoming a Delinquent: How Family, Peer, and Community Influences Interact 379
Long-Term Prospects 381
Preventing and Treating Delinquency 381
summary and key terms 382

Box 1 Research in Action Consequences of the Social Network *378*

Box 2 Research in Action The Youth Violence Epidemic *380*

part 6 Emerging and Young Adulthood

chapter 13

Physical and Cognitive Development in Emerging and Young Adulthood *384*

Emerging Adulthood *385*

PHYSICAL DEVELOPMENT *386*

Health and Fitness *386*

- Health Status and Health Issues *386*
- Genetic Influences on Health *386*
- Behavioral Influences on Health and Fitness *387*
- Indirect Influences on Health *391*
- Mental Health Problems *394*

Sexual and Reproductive Issues *395*

- Sexual Behavior and Attitudes *395*
- Sexually Transmitted Infections (STIs) *396*
- Menstrual Disorders *397*
- Infertility *397*

COGNITIVE DEVELOPMENT *398*

Perspectives on Adult Cognition *398*

- Beyond Piaget: New Ways of Thinking in Adulthood *398*
- Schaie: A Life-Span Model of Cognitive Development *400*
- Sternberg: Insight and Know-How *401*
- Emotional Intelligence *402*

Moral Reasoning *403*

- Culture and Moral Reasoning *404*
- Gender and Moral Reasoning *404*

Education and Work *405*

- The College Transition *406*
- Entering the World of Work *408*

summary and key terms *410*

Box 1 Research in Action Assisted Reproductive Technology *399*

chapter 14

Psychosocial Development in Emerging and Young Adulthood *412*

Emerging Adulthood: Patterns and Tasks *413*

- Varied Paths to Adulthood *413*
- Identity Development in Emerging Adulthood *413*
- Developing Adult Relationships with Parents *416*

Personality Development: Four Views *417*

- Normative-Stage Models *417*
- Timing-of-Events Model *419*
- Trait Models: Costa and McCrae's Five Factors *420*
- Typological Models *422*

Foundations of Intimate Relationships *423*

- Friendship *423*
- Love *424*

Marital and Nonmarital Lifestyles *425*

- Single Life *425*
- Gay and Lesbian Relationships *426*
- Cohabitation *427*
- Marriage *428*

Parenthood *431*

- Parenthood as a Developmental Experience *431*
- How Dual-Income Families Cope *433*

When Marriage Ends *434*

- Divorce *434*
- Remarriage and Stepparenthood *436*

summary and key terms *437*

Box 1 Research in Action The Millennials *414*

Box 2 Research in Action Intimate Partner Violence *435*

part 7 Middle Adulthood

chapter 15

Physical and Cognitive Development in Middle Adulthood *440*

Middle Age: A Social Construct *441*

PHYSICAL DEVELOPMENT 442

Physical Changes 442

Sensory and Psychomotor Functioning 442

The Brain at Midlife 444

Structural and Systemic Changes 445

Sexuality and Reproductive Functioning 445

Physical and Mental Health 448

Health Trends at Midlife 449

Behavioral Influences on Health 450

Socioeconomic Status and Health 450

Race/Ethnicity and Health 451

Gender and Health 452

Stress in Middle Age 455

Emotions and Health 456

Mental Health 457

COGNITIVE DEVELOPMENT 459

Measuring Cognitive Abilities in Middle Age 459

Schaie: The Seattle Longitudinal Study 459

Horn and Cattell: Fluid and Crystallized Intelligence 461

The Distinctiveness of Adult Cognition 461

The Role of Expertise 461

Integrative Thought 462

Creativity 463

Characteristics of Creative Achievers 463

Creativity and Age 464

Work and Education 464

Work versus Early Retirement 464

Work and Cognitive Development 465

The Mature Learner 465

summary and key terms 466

Box 1 Window on the World Cultural Differences in Women's Experience of Menopause 447

chapter 16

Psychosocial Development in Middle Adulthood 468

Looking at the Life Course in Middle Age 469

Change at Midlife: Theoretical Approaches 469

Trait Models 470

Normative-Stage Models 471

Timing of Events: The Social Clock 473

The Self at Midlife: Issues and Themes 474

Is There a Midlife Crisis? 474

Identity Development 475

Psychological Well-Being and Positive Mental Health 478

Relationships at Midlife 481

Theories of Social Contact 481

Relationships, Gender, and Quality of Life 482

Consensual Relationships 482

Marriage 483

Cohabitation 483

Divorce 483

Marital Status, Well-Being, and Health 484

Gay and Lesbian Relationships 485

Friendships 486

Relationships with Maturing Children 486

Adolescent Children: Issues for Parents 487

When Children Leave: The Empty Nest 487

Parenting Grown Children 488

Prolonged Parenting: The "Cluttered Nest" 488

Other Kinship Ties 489

Relationships with Aging Parents 489

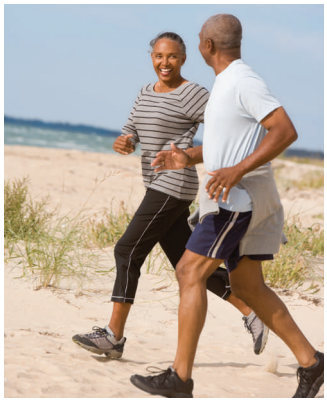
Relationships with Siblings 491

Grandparenthood 491

summary and key terms 494

Box 1 Window on the World A Society without Middle Age 470

part 8 Late Adulthood



chapter 17

Physical and Cognitive Development in Late Adulthood 496

Old Age Today 497

The Graying of the Population 497

Young Old to Oldest Old 498

PHYSICAL DEVELOPMENT 499

Longevity and Aging 499

Trends and Factors in Life Expectancy 499

Why People Age 501

How Far Can the Life Span Be Extended? 503

Physical Changes 506

Organic and Systemic Changes 506

The Aging Brain 507

Sensory and Psychomotor Functioning 508

Sleep 509
Sexual Functioning 510
Physical and Mental Health 510
Health Status 511
Chronic Conditions and Disabilities 511
Lifestyle Influences on Health and Longevity 512
Mental and Behavioral Problems 514
COGNITIVE DEVELOPMENT 519
Aspects of Cognitive Development 519
Intelligence and Processing Abilities 519
Memory: How Does It Change? 522
Wisdom 525
summary and key terms 526
Box 1 Research in Action Centenarians 504

chapter 18

Psychosocial Development in Late Adulthood 528
Theory and Research on Personality Development 529
Erik Erikson: Normative Issues and Tasks 529
The Five-Factor Model: Personality Traits in Old Age 530
Well-Being in Late Adulthood 531
Coping and Mental Health 531
Models of "Successful," or "Optimal," Aging 534
Practical and Social Issues Related to Aging 537
Work and Retirement 537
How Do Older Adults Fare Financially? 539
Living Arrangements 540
Personal Relationships in Late Life 544
Theories of Social Contact and Social Support 544
The Importance of Social Relationships 545
The Multigenerational Family 545
Marital Relationships 546
Long-Term Marriage 546
Widowhood 548
Divorce and Remarriage 548
Nonmarital Lifestyles and Relationships 548
Single Life 548
Cohabitation 549
Gay and Lesbian Relationships 549
Friendships 550
Nonmarital Kinship Ties 551
Relationships with Adult Children 551
Relationships with Siblings 553
Becoming Great-Grandparents 553
summary and key terms 554
Box 1 Window on the World Aging in Asia 538
Box 2 Research in Action Mistreatment of the Elderly 552

9 The End of Life

part

chapter 19

Dealing with Death and Bereavement 556
The Many, Changing Meanings of Death and Dying 557
The Cultural Context 557
The Mortality Revolution 558
Care of the Dying 558
Facing Death and Loss 559
Physical and Cognitive Changes Preceding Death 559
Confronting One's Own Death 560
Patterns of Grieving 560
Attitudes about Death and Dying across the Life Span 563
Significant Losses 565
Surviving a Spouse 565
Losing a Parent in Adulthood 566
Losing a Child 568
Mourning a Miscarriage 568
Medical, Legal, and Ethical Issues: The "Right to Die" 569
Suicide 569
Hastening Death 571
Finding Meaning and Purpose in Life and Death 576
Reviewing a Life 576
Development: A Lifelong Process 577
summary and key terms 577
Box 1 Research in Action Ambiguous Loss 562

Glossary G-1
Bibliography B-1
Credits C-1
Name Index I-1
Subject Index I-23

EXPERIENCE THE Human Side

Experience Human Development helps students experience the human side of development by exposing them to culture and diversity, immersing them in practical application, and helping them study smarter through personalized learning and reporting.

Experience Human Development takes a practical approach to research and recognizes that just as people develop in their own way, your students also learn in their own ways. With our adaptive, personalized learning program, LearnSmart, students are guided toward success on their terms. With integrated resources like Milestones of Child Development, Milestones: Transitions, and short author tutorials on some of the most challenging learning objectives, *Experience Human Development* makes a difference for your students.

Better Data, Smarter Revision, Improved Results

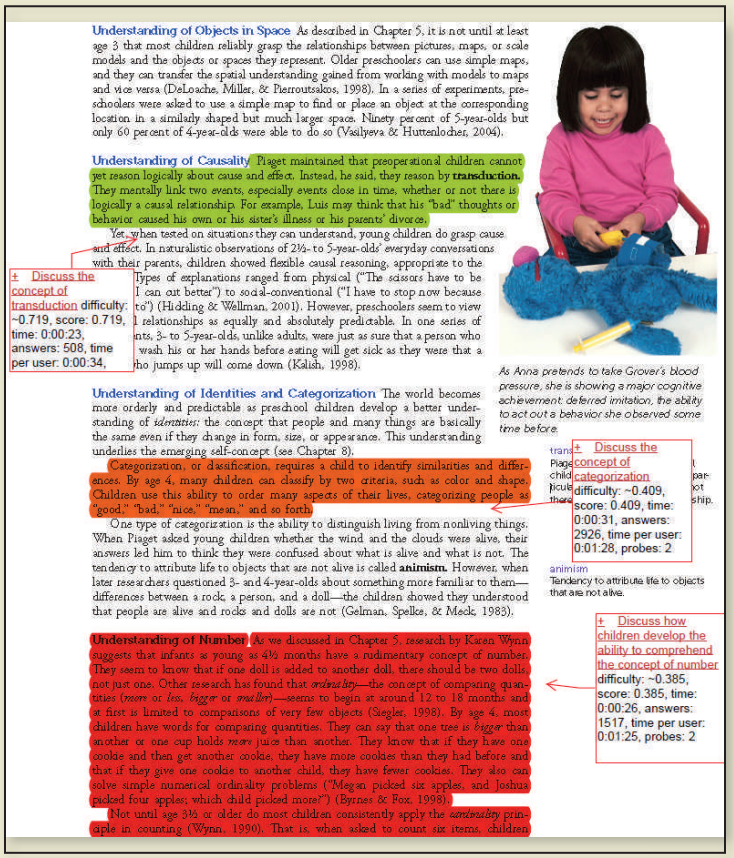
Here's how it used to be: The revision process for a new edition typically began with asking several dozen instructors what they would change and what they would keep. Also, experts in the field were asked to provide comments that point out new material to add and dated material to remove. Using all these reviews, authors would revise the material. But now, a new tool has revolutionized that paradigm. LearnSmart, a tool powered by McGraw-Hill Connect Lifespan Development, is the adaptive learning system that provides students with an individualized assessment of their own progress. McGraw-Hill authors have access to real student data from this tool to create their revisions.

- **Student Data**

  This student data is anonymously collected from the many students who use LearnSmart. Because virtually every text paragraph is tied to several questions that students answer while using LearnSmart, empirical data showing the specific concepts with which students have the most difficulty is easily pinpointed.

# of Development

This student data from LearnSmart is in the form of a *heat map,* which graphically illustrates "hot spots" in the text that cause students the most difficulty. Using these hot spots, McGraw-Hill authors can refine the wording and content in the new edition to make these areas clearer than before.



As Anna pretends to take Grover's blood pressure, she is showing a major cognitive achievement: deferred imitation, the ability to act out a behavior she observed some time before.

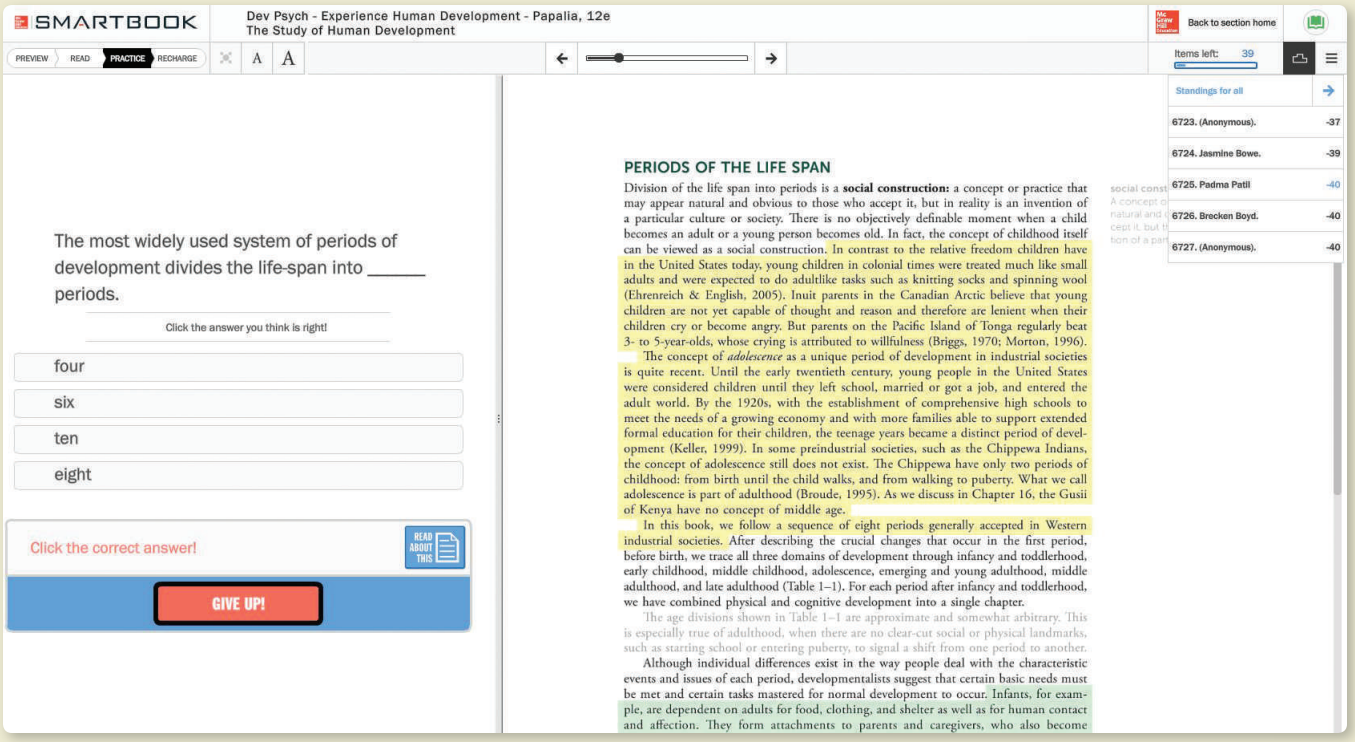
• LearnSmart

Powered by McGraw-Hill Connect® Lifespan Development, LearnSmart is our response to today's student. LearnSmart is designed to maximize productivity and efficiency in learning, helping students "know what they know" while helping them learn what they don't know. In fact, instructors using LearnSmart are reporting that their students' performance is improving by a letter grade or more. Through this unique tool, instructors have the ability to identify struggling students quickly and easily, *before* the first exam.

Regardless of individual study habits, preparation, and approaches to the course, students will find that *Experience Human Development* connects with them on a personal, individual basis and provides a road map for real success in the course.

• SmartBook

Fueled by LearnSmart, SmartBook™ creates a personalized reading experience by highlighting the most impactful concepts a student needs to learn at that moment in time. This ensures that every minute spent with SmartBook is returned to the student as the most value-added minute possible. The reading experience continuously adapts by highlighting content based on what the student knows and doesn't know. Real-time reports quickly identify the concepts that require more attention from individual students—or the entire class. SmartBook detects the content a student is most likely to forget and brings it back to improve long-term knowledge retention.



- **StudySmart**

Experience Human Development, Thirteenth Edition was designed to help students study smarter. "StudySmart" icons appear throughout each chapter alerting students to potential "hot spots," or challenging concepts. These concepts were identified through data collected anonymously from thousands of students using LearnSmart, and when paired with SmartBook, provide students a powerful learning experience. StudySmart icons also direct instructors to digital activities in Connect Lifespan Development that can be assigned for reinforcement and engagement.

studysmart

Operant Conditioning

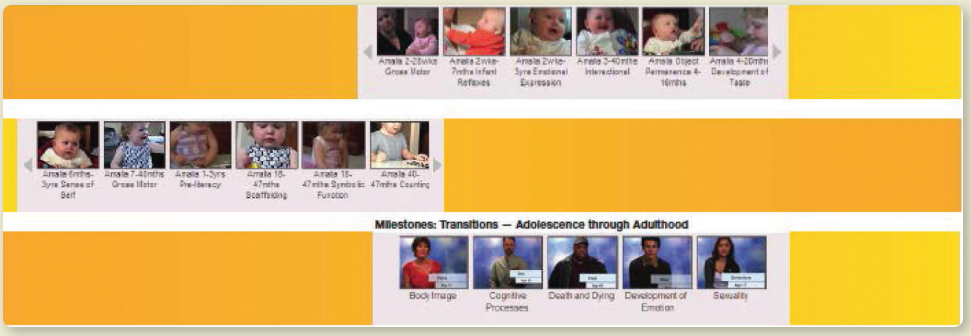
In addition, students will find other "StudySmart" icons in the margin focusing on a specific challenging concept such as "Operant Conditioning." These guide students to assignable and assessable digital activities that are part of Connect Lifespan Development. This means instructors and students can determine how well they understand that concept prior to taking the high-stakes test.

Real People, Real World, Real Life

Many of the Connect StudySmart icons guide students to McGraw-Hill's Milestones, another opportunity to enhance learning.

McGraw Hill's Milestones is a powerful tool that allows students to experience life as it unfolds, from infancy through late adulthood. This tool consists of two

essential components that work together to capture key changes throughout the life span—**Milestones of Child Development** and **Milestones: Transitions.**



In **Milestones of Child Development,** students track the early stages of physical, social, and emotional development. By watching one child over time or comparing various children, Milestones provides a unique, experiential learning environment that can only be achieved by watching real human development as it happens—all in pre-, transitional, and post-milestone segments.

In **Milestones: Transitions,** students meet a series of people—from teenagers to individuals in late adulthood—to hear individual perspectives on changes that occur throughout the life span. Through a series of interviews, students are given the opportunity to think critically while exploring the differences in attitudes on everything from body image to changes in emotion, sexuality, cognitive processes, and death and dying.

We continue to emphasize *Experience Human Development* hallmarks of research, and culture. In addition to updating the research base of each chapter, "Research in Action" features provide an in-depth examination of research topics such as Chapter Six's material about how postpartum depression affects early development. Stressing the cultural development, the "Window on the World" features explore cultural and socioeconomic issues.

Personalized Grading, On the Go, Made Easier

connect INSIGHT

The first and only analytics tool of its kind, Connect Insight™ is a series of visual data displays—each framed by an intuitive question—that provide at-a-glance information regarding how your class is doing.

- **Intuitive:** You receive an instant, at-a-glance view of student performance matched with student activity.
- **Dynamic:** Connect Insight puts real-time analytics in your hands so you can take action early and keep struggling students from falling behind.
- **Mobile:** Connect Insight travels from office to classroom, available on demand wherever and whenever it's needed.

Whether a class is face-to-face, hybrid, or entirely online, *Experience Human Development* provides the tools needed to reduce the amount of time and energy that instructors must expend to administer their

course. Easy-to-use course management in Connect Lifespan Development allows instructors to spend less time administering and more time teaching.

- **At-Risk Student Reports:** The At-Risk report provides instructors with one-click access to a dashboard that identifies students who are at risk of dropping out of a course due to low engagement levels.
- **Category Analysis Reports:** The Category Analysis report is the place to find out how your students are performing relative to specific learning objectives and goals.
- **Item Analysis Reports:** The Item Analysis report is the best way to get a bird's-eye view of a single assignment. You'll be able to tell if students are improving or if the concepts are something you want to spend additional time on in class.
- **Student Performance Reports:** The Student Performance report helps you search for a specific student in your class and focus on that student's progress across your assignments.
- **Assignment Results and Statistics Reports:** The Assignment Results report shows your entire class's performance across all of your assignments. Assignment Statistics reports will give you quick data on each assignment including the mean score, high score, and low scores, as well as the number of times it was submitted.

chapter-by-chapter changes

This is a chapter-by-chapter list of topics that are new to this edition or have been substantially revised or updated.

1 The Study of Human Development

- Streamlined introduction to chapter
- Updated research on school lunch program
- Revised section on studying the life span
- Expanded section on human development today
- Updated information about minority children in the United States
- Updated information on poverty and ethnicity
- Updated information on global poverty

2 Theory and Research

- Clarified material on what a theory is
- Expanded material on early philosophical foundations of psychology and nature of active and reactive development
- Revised section on mechanistic and organismic views of psychology
- Expanded material about Freud's ideas
- Added example of how Erikson's stages feed into each other
- Revised information on assimilation, accommodation, and equilibrium
- Revised material on neo-Piagetian approaches
- Clarified example of the exosystem
- Revised ethology section and provided example
- Revised evolutionary psychology section
- Expanded material about qualitative and quantitative research and the scientific method
- Provided new example of experimental design
- Revised section on laboratory, field, and natural experiments
- Revised section on developmental research designs
- Revised ethics material

3 Forming a New Life

- Rewrote introduction to chapter
- Revised and updated material on multiple births
- Clarified information on the human genome
- Revised information on dominant and recessive genes
- Revised information on polygenic inheritance
- Revised section on genotype and phenotype
- Revised material on incomplete dominance
- Revised information on sex-linked inheritance
- Expanded and revised section on heritability
- Added a simile for canalization
- Added example of nonshared environmental influences

4 Birth and Physical Development during the First Three Years

- Updated maternal and infant mortality rates
- Expanded material on stages of labor
- Revised section on electronic fetal monitoring
- Expanded information on fontanels and neonate skull
- Added information on the functioning of body systems in neonates
- Revised distinction between low-birth-weight and small-for-date infants
- Updated material on interventions for preterm delivery
- Updated statistics on stillbirth in the United States
- Updated statistics on worldwide neonatal mortality rates
- Provided new examples of cephalocaudal and proximodistal development
- Added information on the functions of the different lobes of the brain
- Revised material on neuronal pruning
- Expanded information on plasticity
- Expanded and revised material on ecological systems and dynamic systems theories of motor development

5 Cognitive Development during the First Three Years

- Revised description of operant conditioning
- Expanded material on the use of conditioning techniques in the study of infant memory
- Revised description of intelligent behavior
- Expanded description of developmental tests
- Expanded material on the influence of parental responsiveness
- Revised section on early intervention
- Revised material on imitative abilities
- Expanded description of pictorial competence
- Expanded description of scale error and the dual representation hypothesis
- Expanded and revised description of habituation and dishabituation
- Added example of how visual preference is used in infant habituation research
- Revised material describing how habituation can be used to investigate visual recognition
- Added example on the development of causality
- Revised description of the violation of expectations paradigm and how it can be used to investigate object permanence
- Revised material on conceptual understanding and perceptual awareness
- Expanded definition of implicit memory
- Expanded definition and added example for working memory
- Added material about the early sensitization of infants to their native language
- Expanded definition of phonemes and phonological rules and provided examples of both
- Added example of syntax
- Expanded descriptions of underextension and overextension
- Revised material on overregularization
- Revised and added example to the learning theoretical approach to language acquisition
- Revised section on child-directed speech

6 Psychosocial Development during the First Three Years

- Added example of an emotional response
- Revised definition of social cognition
- Revised introduction to temperament
- Expanded example of a slow-to-warm-up child
- Revised and expanded description of stability of temperament
- Expanded material on behavior inhibition
- Revised information on Erikson's approach and expanded section on trust versus mistrust
- Expanded and revised description of the attachment categories
- Expanded description of internal working mothers and maternal sensitivity and responsiveness
- Expanded description of interactional synchrony and mutual regulation
- Added example of social referencing
- Revised description of the development of conscience
- Expanded description of situational and committed compliance
- Updated statistics on maternal employment and early child care
- Updated statistics on child abuse
- Expanded description of nonorganic failure to thrive
- Expanded description of who abusers are

7 Physical and Cognitive Development in Early Childhood

- Expanded and revised section on brain development
- Expanded information on organized sports
- Revised and updated information on left-handedness
- Updated statistics on undernutrition and food security
- Updated and revised worldwide child mortality information and statistics
- Updated information on homelessness
- Revised introduction to the Piagetian approach
- Expanded section on symbolic function, deferred imitation, and pretend play
- Revised material on understanding causality
- Revised research description of egocentrism
- Expanded conservation material
- Revised description of how early social cognition is linked to theory of mind
- Revised and added examples for basic processes, capacities, and systems in memory
- Added example of recall memory
- Added examples of episodic and generic memories
- Revised and added examples for influences on memory retention
- Revised information on scaffolding and the zone of proximal development
- Added example of fast mapping
- Revised descriptions of grammar and syntax
- Added example for pragmatics
- Revised definition of emergent literacy
- Revised and expanded material on compensatory preschool programs
- Expanded material on the child in kindergarten

8 Psychosocial Development in Early Childhood

- Revised example of self-definition
- Revised and expanded developmental changes in self-esteem
- Revised section on emotional understanding
- Added example of initiative
- Revised introduction to gender differences
- Revised and updated critique of evolutionary approach to gender differences
- Added information on father influences on gender development
- Added supporting research on cultural influences

9 Physical and Cognitive Development in Middle Childhood

- Updated statistics on typical height and weight
- Revised and expanded material on brain development
- Revised information on rough-and-tumble play
- Updated overweight and obesity statistics
- Expanded spatial relationships and causality material and added example
- Revised categorization material and added example
- Expanded inductive and deductive reasoning
- Revised conservation material
- Revised link between culture and mathematical reasoning
- Revised link between egocentrism and moral reasoning
- Added example for link between attention, memory, and planning
- Revised description of executive functioning
- Added example of selective attention
- Revised working memory material
- Expanded description of metamemory
- Provided example of a mnemonic strategy and expanded description
- Explained link between working memory and conservation tasks
- Added definition of psychometrics
- Revised material on culture and IQ
- Revised section on Sternberg's triarchic theory
- Added information about scaffolding to dynamic tests of intelligence
- Expanded definition of syntax
- Revised and expanded section on reading and writing
- Expanded description of metacognition
- Added example of self-efficacy
- Revised introduction to special needs
- Expanded definition of inclusion programs
- Revised and expanded description of convergent and divergent thinking

10 Psychosocial Development in Middle Childhood

- Expanded definition of self-concept
- Revised and expanded section on industry versus inferiority
- Revised description of emotion regulation and included examples
- Revised information on the influence of family conflict
- Expanded definition of coregulation
- Updated statistics on children living in poverty
- Updated statistics on family structure, including living arrangements and father-absent homes
- Revised section on custody, visitation, and co-parenting
- Updated statistics on one-parent families, step families, gay families, and adoptive families
- Expanded section on sociometric popularity
- Revised section on levels of friendship in school-age children
- Expanded example and description of hostile attributional biases
- Added research critiquing arguments for the link between video games and aggression
- Expanded description of resilience and added example

11 Physical and Cognitive Development in Adolescence

- Expanded definition of adolescence as a social construction
- Revised section on adolescence as a time of opportunity and risk
- Revised section on puberty
- Expanded and revised section on family influences on pubertal timing
- Expanded and revised section on the adolescent brain
- Revised introduction to physical and mental health
- Updated statistics on sleep needs and problems
- Updated statistics on the use of alcohol, marijuana, tobacco, and other drugs
- Included recent trends on the use of prescription drugs
- Revised section on alcohol use and included binge drinking as a key term
- Updated statistics on depression and on suicide rates in adolescence
- Revised definition of formal operations and hypothetical-deductive reasoning
- Revised evaluation of Piaget's approach
- Expanded and added example to language development
- Expanded Kohlberg's theory of moral reasoning
- Revised critique of Kohlberg's theory and added an example
- Revised description to Gilligan's theory of moral development
- Revised material on prosocial moral reasoning and added an example
- Updated statistics on high school graduation rates
- Added examples of self-efficacy
- Revised information on brain differences by gender
- Updated statistics on high school dropout rates

12 Psychosocial Development in Adolescence

- Revised and expanded material on moratorium, identity development, and fidelity
- Revised definitions of crisis and commitment
- Expanded and revised material on Marcia's stages of identity formation
- Revised material on gender differences in identity formation
- Revised material on ethnic factors in identity formation
- Added example of cultural socialization
- Updated statistics on sexual activity, contraceptive usage, sexually transmitted infections, and teenage pregnancy
- Revised material on teen pregnancy prevention
- Revised introduction to relationships section
- Added examples of individuation
- Added example of a behavioral control technique
- Revised material on authoritative parenting
- Expanded information on parental monitoring
- Expanded information on the influence of family conflict
- Revised and expanded material on maternal employment
- Revised and expanded information on sibling relationships
- Revised introduction to antisocial behavior and juvenile delinquency
- Revised material on authoritative parenting and its impact on the influence of deviant peers
- Revised material on the youth violence epidemic
- Revised definition of collective efficacy

13 Physical and Cognitive Development in Emerging and Young Adulthood

- Revised definition of emerging adulthood
- Revised and expanded genetic influences on health
- Updated worldwide trends in obesity
- Updated guidelines for suggested exercise and physical activity per week
- Clarified association between SES, minority status, and health
- Included information on same sex marriage and its impact on health insurance coverage
- Updated statistics on drug use and abuse
- Revised introduction to cognition in adulthood
- Revised information on reflective thinking
- Revised and expanded section on postformal thought
- Added examples to all stages of Schaie's life-span model of cognitive development
- Revised material on Sternberg's model of intelligence
- Revised section on Kohlberg's model of moral reasoning
- Revised section on gender and moral reasoning
- Updated statistics on college attendance
- Included information on massive open online courses (MOOCs)
- Revised information on the effect of college on intellectual development
- Updated statistics on expected lifetime earnings by educational level

14 Psychosocial Development in Emerging and Young Adulthood

- Expanded introduction to identity development
- Added examples to stages of recentering
- Expanded introduction to normative stage models
- Expanded and revised section on intimacy versus isolation
- Expanded section on trait models of personality
- Revised material on personality change in adulthood
- Expanded evaluation of five-factor model of personality
- Revised section on friendship
- Added examples of passion and commitment to section on love
- Updated statistics on single adults
- Revised material on gay and lesbian adults and added current information on same-sex marriage
- Updated statistics on political affiliation, religion, age, and support for same-sex marriage
- Updated statistics on first marriages in the United States
- Updated statistics on parenthood and unwed mothers
- Expanded introduction to parenthood
- Revised information on paternal involvement in child care
- Revised section on parenthood and marital satisfaction
- Revised material on dual-income families

15 Physical and Cognitive Development in Middle Adulthood

- Revised introduction to middle age
- Revised sensory and psychomotor functioning
- Revised and expanded material on basal metabolic functioning
- Revised and expanded section on the brain at midlife
- Revised description of menopausal transition
- Revised material on symptoms of menopause
- Revised information on male sexual functioning and erectile dysfunction
- Revised and expanded section on behavioral influences on health
- Included information on the Affordable Care Act in section on socioeconomic status and health
- Revised and expanded section on race/ethnicity and health
- Revised description of hormone therapy for menopause
- Revised information on stress in middle age
- Revised section on mental health
- Revised and expanded section on how stress affects health
- Revised material on the Seattle Longitudinal Study
- Revised and expanded description of fluid and crystallized intelligence and added metaphor
- Revised and expanded description of encapsulation
- Revised and expanded section on characteristics of creative achievers
- Revised and expanded section on work and cognitive development

16 Psychosocial Development in Middle Adulthood

- Revised section on trait models of personality
- Revised and expanded sections on generativity versus stagnation
- Revised and expanded section on timing of events and the social clock
- Added examples to and expanded introduction to midlife crises
- Revised material on midlife review
- Revised and expanded material on identity assimilation, identity accommodation, and identity balance
- Expanded description of narrative psychology
- Revised and expanded descriptions of multiple dimensions of well-being
- Revised material on marital capital
- Revised section on marital status, well-being, and health
- Added example of kinkeeping
- Revised description of and added example for filial maturity

17 Physical and Cognitive Development in Late Adulthood

- Updated statistics for and revised introduction to the graying of the population
- Revised and expanded definition of geriatrics and gerontology
- Updated statistics on life expectancy in the United States
- Updated statistics on regional and racial/ethnic differences in life expectancy
- Revised introduction to why people age
- Revised and expanded section on genetic programming theories of death
- Revised and expanded section on variable rate theories of death
- Revised definition of survival curves
- Expanded definition of reserve capacity and added metaphor
- Expanded and revised description of age-related macular degeneration
- Expanded material on periodontal disease
- Added example of dementia
- Revised information on factors that influence development of dementia
- Added metaphor for cognitive declines
- Revised material on cognitive abilities and mortality
- Expanded material on and added examples for sensory and working memory
- Revised material on semantic memory
- Expanded material on and added examples for procedural memory
- Revised and expanded material on the effects of aging on speech and memory
- Expanded definition of wisdom

18 Psychosocial Development in Late Adulthood

- Revised and added example to cognitive appraisal model
- Revised section on coping strategies
- Revised section on disengagement theory versus activity theory
- Revised and added examples to continuity theory
- Revised and expanded information on selective optimization with compensation
- Updated statistics on the finances of older people
- Updated statistics on living arrangements
- Revised section on the importance of social relationships
- Updated statistics on widowhood
- Updated statistics on single life
- Revised section on sibling relationships

19 Dealing with Death and Bereavement

- Expanded and added example to description of palliative care
- Updated statistics on near death experiences
- Expanded description of bereavement
- Revised and updated information on ambiguous loss
- Added recent examples of ethics of right-to-die cases and advance directives
- Revised information on passive euthanasia
- Added material to introduction on advance directives
- Updated statistics on the effect of Oregon's assisted-suicide law

integrated instructor resources

The password-protected Online Learning Center for *Experience Human Development,* Thirteenth Edition, contains valuable tools for instructors to use in the classroom. This site includes chapter-by-chapter Instructor's Manual, Test Bank files, and PowerPoint presentations.

- **Instructor's Manual**—The instructor's manual includes classroom activities available to both new and experienced instructors. Among the featured resources are teaching outlines, suggested lecture topics, and classroom discussions and activities. The manual is available in electronic format, for convenient access, editing, and printing.
- **Test Bank**—Each chapter's test bank holds approximately 100 questions that are designed to test factual, conceptual, and practice-based understanding. The test bank is compatible with **EZTest,** McGraw-Hill's **Computerized Test Bank** program.
- **PowerPoint Presentations**—These slides cover the key points of each chapter and include charts and graphs from the text. The PowerPoint presentations serve as an organization and navigation tool integrated with examples and activities from an expert instructor. The slides can be used as is or modified to meet your needs.

EXPERIENCE

Human Development

part 1
ABOUT HUMAN DEVELOPMENT

chapter 1

The Study of Human Development

outline

Human Development: An Ever-Evolving Field

The Study of Human Development: Basic Concepts

Influences on Development

The Life-Span Developmental Approach

learning objectives

Describe human development and how its study has evolved.

Describe the domains and periods of human development.

Give examples of the influences that make one person different from another.

Discuss the principles of the life-span perspective.

did you know?

- In some societies there is no concept of adolescence or middle age?
- Many scholars today agree that race is not a concept that can be defended on a biological basis?
- More than 16 million U.S. children live in poverty and are at risk for health, cognitive, emotional, and behavioral problems?

In this chapter we describe how the field of human development has itself developed. We identify aspects of development and show how they interrelate. We summarize major developments during each period of life. We look at influences on development and the contexts in which each occurs.

There is nothing permanent except change.

—Heraclitus, *fragment* (sixth century BCE)

Human Development: An Ever-Evolving Field

From the moment of conception, human beings begin a process of change that will continue throughout life. A single cell develops into a living, breathing, walking, talking person who moves through an ever-changing world, both being influenced by and influencing it. Babies grow and become children, who grow and become adults. Although we are all individuals and follow our own unique trajectory, we share a species heritage, many common experiences, and broad patterns of development. Those patterns of development are explored throughout this book.

The field of **human development** focuses on the scientific study of the systematic processes of change and stability in people. Developmental scientists (or developmentalists)—individuals engaged in the professional study of human development—look at ways in which people change from conception through maturity as well as at characteristics that remain fairly stable. Which characteristics are most likely to endure? Which are likely to change, and why? These are among the questions developmental scientists seek to answer.

human development
Scientific study of processes of change and stability throughout the human life span.

The work of developmentalists can have a dramatic impact on people's lives. Research findings often have applications to child rearing, education, health, and social policy. For example, research has shown that students who go to school hungry have poorer grades and more emotional and behavioral problems than their classmates, and that this effect is most striking in students from deprived environments. When breakfast programs are implemented, students show academic gains, an effect driven partly by improved nutrition and partly by the decrease in absences that generally accompanies such programs (Hoyland, Dye, & Lawton, 2009). Research showing that the adolescent brain is still immature has prompted suggestions that adolescents accused of crimes be exempt from the death penalty. An understanding of adult development can help people understand and deal with life transitions: a woman returning to work after maternity leave, a person making a career change, a widower dealing with loss, someone coping with a terminal illness.

Developmental psychologists have helped identify key achievements in development across childhood. Many parenting Web sites include lists of these milestones to help parents track their children's growth.

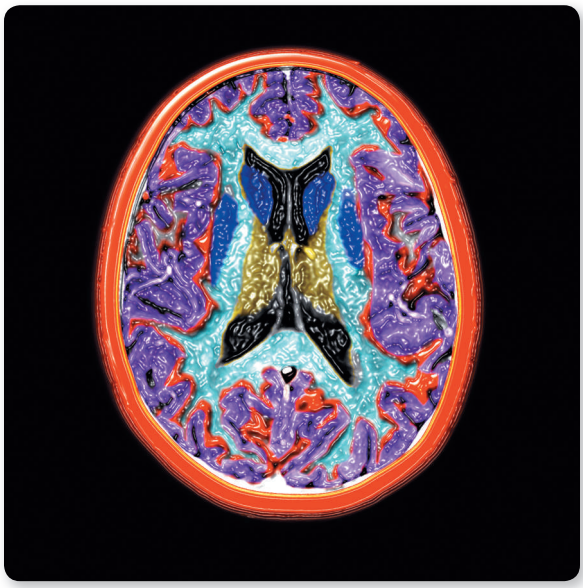
STUDYING THE LIFE SPAN

When the field of developmental psychology emerged as a scientific discipline, most researchers focused their energies on infant and child development. Growth and development are more obvious during these times given the rapid pace of change. As the field matured, however, it became clear that development included more than infancy and childhood. Now researchers consider **life-span development** to be from "womb to tomb," comprising the entire human life span from conception to death. Moreover, they acknowledge that development can be either positive (e.g., becoming toilet trained or enrolling in a college course after retirement) or negative (e.g., once again wetting the bed after a traumatic event or isolating yourself after retirement). For these reasons, events such as the timing of parenthood, maternal employment, and marital satisfaction are now also studied as part of developmental psychology.

life-span development
Concept of human development as a lifelong process, which can be studied scientifically.

HUMAN DEVELOPMENT TODAY

As the field of human development itself developed, its goals came to include description, explanation, prediction, and intervention. For example, to *describe* when most



Brain imaging techniques, such as functional magnetic resonance imaging (fMRI), positron emission tomography (PET), and electroencephalogram (EEG), are used to map out where certain thought processes take place within the structure of the brain.

children say their first word or how large their vocabulary is at a certain age, developmental scientists observe large groups of children and establish norms, or averages, for behavior at various ages. They then attempt to *explain* how children acquire language and why some children learn to speak later than usual. This knowledge may make it possible to *predict* future behavior, such as the likelihood that a child will have serious speech problems. Finally, an understanding of how language develops may be used to *intervene* in development, for example, by giving a child speech therapy.

The scientific study of human development is ever evolving. The questions that developmental scientists try to answer, the methods they use, and the explanations they propose are more sophisticated and more varied than they were even five years ago. These shifts reflect progress in understanding as new investigations build on or challenge those that went before. They also reflect advances in technology. Scientists now have access to sensitive instruments that measure eye movement, heart rate, and muscle tension. They are able to use digital technology that allows them to analyze how mothers and babies communicate. Advances in brain imaging make it possible to probe the mysteries of temperament or to compare a normally aging brain with the brain of a person with dementia.

Development is messy. It's complex and multifaceted and shaped by interacting arcs of influence. Thus development is best understood with input from a variety of theoretical and research orientations and is most appropriately studied using multiple disciplines. Not surprisingly, the study of development has been interdisciplinary almost from the start (Parke, 2004b). Students of human development draw collaboratively from a wide range of disciplines, including psychology, psychiatry, sociology, anthropology, biology, genetics, family science, education, history, and medicine. This book includes findings from research in all these fields.

checkpoint can **you** . . .

- Give examples of practical applications of research on human development?
- Identify four goals of the scientific study of human development?
- Name at least six disciplines involved in the study of human development?

The Study of Human Development: Basic Concepts

Developmentalists study processes of change and stability in all domains, or aspects, of development throughout all periods of the life span.

DOMAINS OF DEVELOPMENT

Developmental scientists study three major *domains,* or aspects, of the self: physical, cognitive, and psychosocial. Growth of the body and brain, sensory capacities, motor skills, and health are parts of **physical development.** Learning, attention, memory, language, thinking, reasoning, and creativity make up **cognitive development.** Emotions, personality, and social relationships are aspects of **psychosocial development.**

physical development
Growth of body and brain, including patterns of change in sensory capacities, motor skills, and health.

cognitive development
Pattern of change in mental abilities, such as learning, attention, memory, language, thinking, reasoning, and creativity.

psychosocial development
Pattern of change in emotions, personality, and social relationships.

Although in this book we talk separately about physical, cognitive, and psychosocial development, these domains are interrelated: each aspect of development affects the others. For example, physical development affects cognitive and psychosocial development. A child with frequent ear infections may develop language more slowly than a child without this physical problem. During puberty, dramatic physical and hormonal changes affect the developing sense of self. In contrast, physical changes in the brains of some older adults may lead to intellectual and personality deterioration.

Similarly, cognitive advances and declines are related to physical and psychosocial development. A child who is precocious in language development may bring about positive reactions in others and thus gain in self-worth. Memory development reflects gains or losses in physical connections in the brain. An adult who has trouble remembering people's names may feel shy in social situations.

And finally, psychosocial development can affect cognitive and physical functioning. Indeed, without meaningful social connections, physical and mental health suffers. Motivation and self-confidence are important contributors to school success, whereas negative emotions such as anxiety can impair performance. Researchers even have identified possible links between a conscientious personality and length of life.

These children are engaging in all three domains of development: sensory perception (physical development), learning (cognitive development), and social relationships building (psychosocial development).

Although for simplicity's sake we look separately at physical, cognitive, and psychosocial development, development is a unified process. Throughout the text, links among the three major domains of development are highlighted.

study smart

Domains of Development

PERIODS OF THE LIFE SPAN

Division of the life span into periods is a **social construction:** a concept or practice that is an invention of a particular culture or society. There is no objectively definable moment when a child becomes an adult or a young person becomes old. Because the concept of childhood is a social construction, the form it takes varies across cultures. In contrast to the relative freedom children have in the United States today, young children in colonial times were expected to do adultlike tasks such as knitting socks and spinning wool (Ehrenreich & English, 2005). Inuit parents in the Canadian Arctic believe that young children are not yet capable of thought and reason and therefore are lenient when their children cry or become angry. But parents on the Pacific Island of Tonga regularly beat 3- to 5-year-olds, whose crying is attributed to willfulness (Briggs, 1970; Morton, 1996).

social construction
A concept or practice that may appear natural and obvious to those who accept it, but that in reality is an invention of a particular culture or society.

A similar construction involves *adolescence,* which is a recent concept that emerged as society became more industrialized. Until the early twentieth century, young people in the United States were considered children until they left school, married or got a job, and entered the adult world. By the 1920s, with the establishment of comprehensive high schools to meet the needs of a growing economy and with more families able to support extended formal education for their children, the teenage years became a distinct period of development (Keller, 1999). In some preindustrial societies, such as the Chippewa Indians, the concept of adolescence still does not exist. The Chippewa have only two periods of childhood: from birth until the child walks, and from walking to puberty. What we call adolescence is part of adulthood (Broude, 1995).

In this book, we follow a sequence of eight periods generally accepted in Western industrial societies. After describing the crucial changes that occur in the first period, before birth, we trace all three domains of development through infancy and toddlerhood, early childhood, middle childhood, adolescence, emerging and young adulthood, middle adulthood, and late adulthood (Table 1). For each period after infancy and toddlerhood, we have combined physical and cognitive development into a single chapter.

The age divisions shown in Table 1 are approximate and somewhat arbitrary. This is especially true of adulthood, when there are no clear-cut social or physical landmarks, such as starting school or entering puberty, to signal a shift from one period to another.

The interactions between domains of development can be conceptualized as a giant spiderweb where one thread of development is affected by what is going on in the rest of the web. A vibration experienced in one area is experienced by the whole web.

TABLE 1 Typical Major Developments in Eight Periods of Human Development

Age Period	Physical Developments	Cognitive Developments	Psychosocial Developments
Prenatal Period (conception to birth)	Conception occurs by normal fertilization or other means. The genetic endowment interacts with environmental influences from the start. Basic body structures and organs form; brain growth spurt begins. Physical growth is the most rapid in the life span. Vulnerability to environmental influences is great.	Abilities to learn and remember and to respond to sensory stimuli are developing.	Fetus responds to mother's voice and develops a preference for it.
Infancy and Toddlerhood (birth to age 3)	All senses and body systems operate at birth to varying degrees. The brain grows in complexity and is highly sensitive to environmental influence. Physical growth and development of motor skills are rapid.	Abilities to learn and remember are present, even in early weeks. Use of symbols and ability to solve problems develop by end of second year. Comprehension and use of language develop rapidly.	Attachments to parents and others form. Self-awareness develops. Shift from dependence toward autonomy occurs. Interest in other children increases.
Early Childhood (ages 3 to 6)	Growth is steady; appearance becomes more slender and proportions more adultlike. Appetite diminishes, and sleep problems are common. Handedness appears; fine and gross motor skills and strength improve.	Thinking is somewhat egocentric, but understanding of other people's perspectives grows. Cognitive immaturity results in some illogical ideas about the world. Memory and language improve. Intelligence becomes more predictable. Preschool experience is common, and kindergarten experience is more so.	Self-concept and understanding of emotions become more complex; self-esteem is global. Independence, initiative, and self-control increase. Gender identity develops. Play becomes more imaginative, more elaborate, and usually more social. Altruism, aggression, and fearfulness are common. Family is still the focus of social life, but other children become more important.
Middle Childhood (ages 6 to 11)	Growth slows. Strength and athletic skills improve. Respiratory illnesses are common, but health is generally better than at any other time in the life span.	Egocentrism diminishes. Children begin to think logically but concretely. Memory and language skills increase. Cognitive gains permit children to benefit from formal schooling. Some children show special educational needs and strengths.	Self-concept becomes more complex, affecting self-esteem. Coregulation reflects gradual shift in control from parents to child. Peers assume central importance.

TABLE 1 Typical Major Developments in Eight Periods of Human Development

Age Period	Physical Developments	Cognitive Developments	Psychosocial Developments
Adolescence (ages 11 to about 20)	Physical growth and other changes are rapid and profound. Reproductive maturity occurs. Major health risks arise from behavioral issues, such as eating disorders and drug abuse.	Ability to think abstractly and use scientific reasoning develops. Immature thinking persists in some attitudes and behaviors. Education focuses on preparation for college or vocation.	Search for identity, including sexual identity, becomes central. Relationships with parents are generally good. Peer group may exert a positive or negative influence.
Emerging and Young Adulthood (ages 20 to 40)	Physical condition peaks, then declines slightly. Lifestyle choices influence health.	Thought and moral judgments become more complex. Educational and occupational choices are made, sometimes after period of exploration.	Personality traits and styles become relatively stable, but changes in personality may be influenced by life stages and events. Intimate relationships and personal lifestyles are established but may not be lasting. Most people marry, and most become parents.
Middle Adulthood (ages 40 to 65)	Slow deterioration of sensory abilities, health, stamina, and strength may begin, but individual differences are wide. Women experience menopause.	Mental abilities peak; expertise and practical problem-solving skills are high. Creative output may decline but improve in quality. For some, career success and earning powers peak; for others, burnout or career change may occur.	Sense of identity continues to develop; midlife transition may occur. Dual responsibilities of caring for children and parents may cause stress. Launching of children leaves empty nest.
Late Adulthood (age 65 and over)	Most people are healthy and active, although health and physical abilities generally decline. Slowing of reaction time affects some aspects of functioning.	Most people are mentally alert. Although intelligence and memory may deteriorate in some areas, most people find ways to compensate.	Retirement from workforce may occur and may offer new options for use of time. People develop more flexible strategies to cope with personal losses and impending death. Relationships with family and close friends can provide important support. Search for meaning in life assumes central importance.

Although individual differences exist in the way people deal with the characteristic events and issues of each period, developmentalists suggest that certain basic needs must be met and certain tasks mastered for normal development to occur. Infants, for example, are dependent on adults for food, clothing, and shelter as well as for human contact and affection. They form attachments to parents and caregivers, who also become attached to them. With the development of speech and self-locomotion, toddlers become more self-reliant; they need to assert their autonomy but also need parents to set limits on their behavior. During early childhood, children gain more self-control and become more interested in other children. During middle childhood, control over behavior gradually shifts from parent to child, and the peer group becomes increasingly important. A central task of adolescence is the search for identity—personal, sexual, and occupational. As adolescents become physically mature, they deal with conflicting needs and emotions as they prepare to leave the parental nest.

During emerging adulthood, an exploratory period in the early to midtwenties, many people are not yet ready to settle down to the typical tasks of young adulthood: establishing independent lifestyles, occupations, and families. By the 30s, most adults have successfully fulfilled those tasks. During middle adulthood, some decline in physical capabilities is likely. At the same time, many middle-aged people find excitement and challenge in life changes—launching new careers and adult children—while some face the need to care for elderly parents. In late adulthood, people need to cope with losses in their faculties, the loss of loved ones, and preparations for death. If they retire, they must deal with the loss of work-based relationships but may get increased pleasure out of friendships, family, volunteer work, and the opportunity to explore previously neglected interests. Many older people become more introspective, searching out the meaning of their lives.

checkpoint can you . . .

- Identify the three domains of development and give examples of how they are interrelated?
- Name eight periods of human development and list several key issues or tasks of each period?

Influences on Development

What makes each person unique? Although students of development are interested in the universal processes of development experienced by all normal human beings, they also study **individual differences** in characteristics, influences, and developmental outcomes. People differ in gender, height, weight, and body build; in health and energy level; in intelligence; and in temperament, personality, and emotional reactions. The contexts of their lives differ too: the homes, communities, and societies they live in, the relationships they have, the schools they go to (or whether they go to school at all), and how they spend their free time. Every person has a unique developmental trajectory, an individual path to follow. One challenge in developmental psychology is to identify the universal influences on development, and then apply those to understanding individual differences in developmental trajectories.

individual differences
Differences in characteristics, influences, or developmental outcomes.

HEREDITY, ENVIRONMENT, AND MATURATION

Some influences on development originate primarily with **heredity:** inborn traits or characteristics inherited from the biological parents. Other influences come largely from the **environment:** the world outside the self, beginning in the womb, and the learning that comes from experience. Which of these two factors has more impact on development? The issue of the relative importance of *nature* (heredity) and *nurture* (environmental influences both before and after birth) historically generated intense debate.

heredity
Inborn traits or characteristics inherited from the biological parents.

environment
Totality of nonhereditary, or experiential, influences on development.

Today scientists have found ways to measure more precisely the roles of heredity and environment in the development of specific traits within a population. When we look at a particular person, however, research with regard to almost all characteristics points to a blend of inheritance and experience. Thus, even though intelligence is strongly influenced by heredity, parental stimulation, education, peer influence, and other variables also affect it. Contemporary theorists and researchers are more interested in finding ways to explain how nature and nurture work together than in arguing about which factor is more important.

Many typical changes of infancy and early childhood, such as the abilities to walk and talk, are tied to **maturation** of the body and brain—the unfolding of a natural

maturation
Unfolding of a natural sequence of physical and behavioral changes.

sequence of physical changes and behavior patterns. As children grow into adolescents and then into adults, individual differences in innate characteristics and life experience play a greater role. Throughout life, however, maturation continues to influence certain biological processes, such as brain development.

Even in processes that all people undergo, rates and timing of development vary. Throughout this book, we talk about average ages for the occurrence of certain events: the first word, the first step, the first menstruation or nocturnal emission, the development of logical thought, and menopause. But these ages are *merely* averages, and there is wide variation among people with respect to these norms. Only when deviation from the average is extreme should we consider development exceptionally advanced or delayed.

To understand development, then, we need to look at the *inherited* characteristics that give each person a start in life. We also need to consider the many *environmental* factors that affect development, especially such major contexts as family, neighborhood, socioeconomic status, race/ethnicity, and culture. We need to consider how heredity and environment interact. We need to understand which developments are primarily maturational and which are not. We need to look at influences that affect many or most people at a certain age or a certain time in history and also at those that affect only certain individuals. Finally, we need to look at how timing can accentuate the impact of certain influences.

To get a callus, you have to have "callus-making" genes of some sort, but the environmental input of repeated friction on your skin is also required or a callus would never form. So are calluses more nature or more nurture?

CONTEXTS OF DEVELOPMENT

Human beings are social beings. From the beginning they develop within a social and historical context. For an infant, the immediate context normally is the family, but the family in turn is subject to the wider and ever-changing influences of neighborhood, community, and society.

study smart

Nature/Nurture

Family The **nuclear family** is a household unit consisting of one or two parents and their children, whether biological, adopted, or stepchildren. Historically, the two-parent nuclear family has been the normative family unit in the United States and other Western societies. However, instead of the large, rural family in which parents and children worked side by side on the family farm, we now see smaller, urban families in which both parents work outside the home and children spend much of their time in school or child care. The increased incidence of divorce also has affected the nuclear family. Children of divorced parents may live with one or the other parent or may move back and forth between them. The household may include a stepparent and stepsiblings or a parent's live-in partner. There are increasing numbers of single and childless adults, unmarried parents, and gay and lesbian households (Dye, 2010; Hernandez, 2004; Teachman, Tedrow, & Crowder, 2000).

nuclear family
Two-generational kinship, economic, and household unit consisting of one or two parents and their biological children, adopted children, or stepchildren.

extended family
Multigenerational kinship network of parents, children, and other relatives, sometimes living together in an extended-family household.

In many societies in Asia, Africa, and Latin America and among some U.S. families that trace their lineage to those countries, the **extended family**—a

An extended-family household might include grandparents, aunts, and cousins.