

This International Student Edition is for use outside of the U.S.

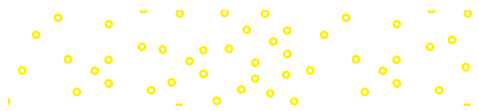
EXPERIENCE
Human
DEVELOPMENT

14e



Mc
Graw
Hill

Diane E. Papalia
Gabriela Martorell



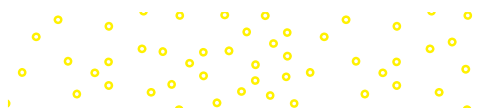
EXPERIENCE

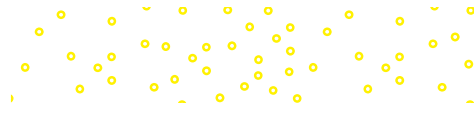
Human Development

FOURTEENTH EDITION

Diane E. **PAPALIA**
Gabriela **MARTORELL**

**Mc
Graw
Hill**





EXPERIENCE HUMAN DEVELOPMENT

Published by McGraw-Hill Education, 2 Penn Plaza, New York, NY 10121. Copyright © 2021 by McGraw-Hill Education. All rights reserved. Printed in the United States of America. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written consent of McGraw-Hill Education, including, but not limited to, in any network or other electronic storage or transmission, or broadcast for distance learning.

Some ancillaries, including electronic and print components, may not be available to customers outside the United States.

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 LWI 24 23 22 21 20

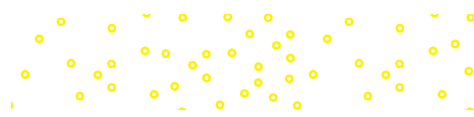
ISBN 978-1-260-57087-8

MHID 1-260-57087-8

Cover Image: *Anton Khrupin/Shutterstock*

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

The Internet addresses listed in the text were accurate at the time of publication. The inclusion of a website does not indicate an endorsement by the authors or McGraw-Hill Education, and McGraw-Hill Education does not guarantee the accuracy of the information presented at these sites.

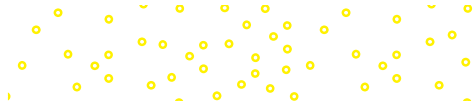




Diane E. Papalia As a professor, Diane E. Papalia taught thousands of undergraduates at the University of Wisconsin–Madison. She received her bachelor’s degree, majoring in Psychology, from Vassar College and both her master’s degree in Child Development and Family Relations and her Ph.D. in Lifespan 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 11th edition, with Sally Wendkos Olds and Ruth Duskin Feldman; of *Adult Development and Aging*, now in its 3rd 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.

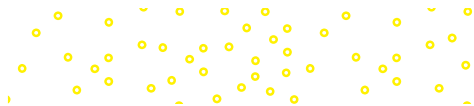


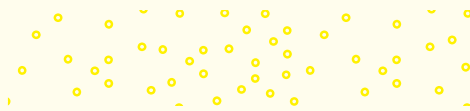
Gabriela Alicia Martorell was born in Seattle, Washington, but moved as a toddler to Guatemala. At eight, she returned to the United States and lived in Northern California until leaving for her undergraduate training at the University of California, Davis. After obtaining her bachelor’s degree in Psychology, she earned her Ph.D. in Developmental and Evolutionary Psychology with an interdisciplinary emphasis in Human Development from the University of California, Santa Barbara. She now works as a Full Professor of Psychology at Virginia Wesleyan University and serves as the chair of the Institutional Review Board. Gabi maintains an active teaching schedule and teaches courses in Introductory Psychology, Lifespan Human Development, Infant Development, Child Development, Adolescent Development, Culture and Development, Evolutionary Psychology, Research Methods, Original Research Project, and Capstone community-based learning courses in Early Childhood Education and Adulthood and Aging. She is committed to teaching, mentoring, and advising. She recently concluded a 5-year longitudinal National Science Foundation grant focused on the retention of higher education students from traditionally underrepresented groups in science, technology, engineering, and math. She is also a volunteer trainer for Court Appointed Special Advocates and a group fitness instructor for the YMCA of South Hampton Roads.



To Charles Robert Zappa,
with love.

To my grandmother Alicia. I don't know that I can
aspire to your kindness and generosity, but I
hope to someday be as wise.





About the Authors *iii*

Preface *xvi*

1 About Human Development

- part
- 1 The Study of Human Development 2
 - 2 Theory and Research 20

2 Beginnings

- part
- 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 124
 - 6 Psychosocial Development during the First Three Years 158

3 Early Childhood

- part
- 7 Physical and Cognitive Development in Early Childhood 192
 - 8 Psychosocial Development in Early Childhood 228

4 Middle Childhood

- part
- 9 Physical and Cognitive Development in Middle Childhood 256
 - 10 Psychosocial Development in Middle Childhood 292

5 Adolescence

- part
- 11 Physical and Cognitive Development in Adolescence 320
 - 12 Psychosocial Development in Adolescence 352

6 Emerging and Young Adulthood

- part
- 13 Physical and Cognitive Development in Emerging and Young Adulthood 382
 - 14 Psychosocial Development in Emerging and Young Adulthood 410

7 Middle Adulthood

- part
- 15 Physical and Cognitive Development in Middle Adulthood 438
 - 16 Psychosocial Development in Middle Adulthood 466

8 Late Adulthood

- part
- 17 Physical and Cognitive Development in Late Adulthood 496
 - 18 Psychosocial Development in Late Adulthood 528

9 The End of Life

- part
- 19 Dealing with Death and Bereavement 556

 **connect** McGraw-Hill Psychology APA Documentation Style Guide

Glossary *G-1*

Bibliography *B-1*

Name Index *I-1*

Subject Index *I-31*



About the Authors *iii*

Preface *xvi*

1 About Human Development

part



LightField Studios/Shutterstock

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

Window on the World Immigrant Families 13

Research in Action Baby Talk 16

chapter 2

Theory and Research 20

Basic Theoretical Issues 21

 Issue 1: Is Development Active or Reactive? 22

 Issue 2: Is Development Continuous or Discontinuous? 22

Theoretical Perspectives 23

 Perspective 1: Psychoanalytic 24

 Perspective 2: Learning 27

 Perspective 3: Cognitive 29

 Perspective 4: Contextual 32

 Perspective 5: Evolutionary/Sociobiological 33

Research Methods 34

 Quantitative and Qualitative Research 35

 Sampling 35

 Forms of Data Collection 36

 Evaluating Quantitative and Qualitative Research 37

 Basic Research Designs 38

 Developmental Research Designs 42

Ethics of Research 45

summary and key terms 46

Window on the World Purposes of Cross-Cultural Research 40

2 Beginnings

part



narikan/Shutterstock

chapter 3

Forming a New Life 48

Conceiving New Life 49

 How Fertilization Takes Place 49

 What Causes Multiple Births? 49

Mechanisms of Heredity 50

 The Genetic Code 50

- What Determines Sex? 51
- Patterns of Genetic Transmission 52
- Genetic and Chromosomal Abnormalities 56
- Genetic Counseling and Testing 60
- Nature and Nurture: Influences of Heredity and Environment 61
 - Studying Heredity and Environment 61
 - How Heredity and Environment Work Together 62
 - Some Characteristics Influenced by Heredity and Environment 65
- Prenatal Development 67
 - Stages of Prenatal Development 67
 - Environmental Influences: Maternal Factors 73
 - Environmental Influences: Paternal Factors 80
- Monitoring and Promoting Prenatal Development 81
 - Disparities in Prenatal Care 81
- summary and key terms** 84
- Research in Action** Epigenetics: Identical Twins That Aren't Identical 55
- Window on the World** Prenatal Care around the World 83

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 92
 - Medical and Behavioral Assessment 93
 - States of Arousal 94
- Complications of Childbirth 96
 - Low Birth Weight 96
 - Postmaturity 100
 - Stillbirth 100
- Survival and Health 100
 - Infant Mortality 100
 - Immunization for Better Health 104
- Early Physical Development 104
 - Principles of Development 104

- Growth Patterns 105
- Nutrition 106
- The Brain and Reflex Behavior 107
- Early Sensory Capacities 114
- Motor Development 116
 - Milestones of Motor Development 116
 - Motor Development and Perception 118
 - Eleanor and James Gibson's Ecological Theory of Perception 119
 - How Motor Development Occurs: Thelen's Dynamic Systems Theory 120
 - Cultural Influences on Motor Development 121
- summary and key terms** 122
- Window on the World** Malnutrition: The First 1,000 Days 108
- Research in Action** Autism 111

chapter 5

- Cognitive Development during the First Three Years 124
- Studying Cognitive Development 125
- Behaviorist Approach 125
 - Classical and Operant Conditioning 125
 - Infant Memory 126
- Psychometric Approach 127
 - Testing Infants and Toddlers 127
 - Assessing the Impact of the Early Home Environment 128
 - Early Intervention 128
- Piagetian Approach 130
 - Substages of the Sensorimotor Stage 130
 - Imitation 132
 - Object Concept 133
 - Symbolic Development, Pictorial Competence, and Understanding of Scale 134
 - Evaluating Piaget's Sensorimotor Stage 135
- Information-Processing Approach 135
 - Habituation 135
 - Tools of Infant Research 136
 - Perceptual Processes 136
 - Information Processing as a Predictor of Intelligence 138
 - Information Processing and Piagetian Abilities 138
 - Evaluating Information-Processing Research 142
- Cognitive Neuroscience Approach 143
- Social-Contextual Approach 143
- Language Development 144



Sequence of Early Language Development	145
Characteristics of Early Speech	149
Variations In Language Development	149
Classic Theories of Language Acquisition: The Nature-Nurture Debate	150
Influences on Early Language Development	151
Preparing for Literacy: The Benefits of Reading Aloud	153

summary and key terms 155

Research in Action Infants, Toddlers, and TV 139

Window on the World Literacy and Children's Books 154

chapter 6

Psychosocial Development during the First Three Years 158

Foundations of Psychosocial Development 159

Emotions	159
Temperament	163
Early Social Experiences: the Family	167
Gender	168

Developmental Issues in Infancy 170

Developing Trust	170
Developing Attachments	170
Emotional Communication with Caregivers: Mutual Regulation	175
Social Referencing	175

Developmental Issues in Toddlerhood 177

The Emerging Sense of Self	177
Development of Autonomy	178
Moral Development: Socialization and Internalization	179

Relationships with Other Children 182

Siblings	182
Peers	183

Children of Working Parents 183

Effects of Maternal Employment	183
Early Child Care	184

Maltreatment: Abuse and Neglect 186

Maltreatment in Infancy and Toddlerhood	186
Contributing Factors: An Ecological View	187
Helping Families in Trouble	188
Long-Term Effects of Maltreatment	188

summary and key terms 189

Research in Action Postpartum Depression and Early Development 176

Window on the World Are Struggles with Toddlers Necessary? 179

3 Early Childhood

part



kali9/E+/Getty Images

chapter 7

Physical and Cognitive Development in Early Childhood 192

PHYSICAL DEVELOPMENT 193

Aspects of Physical Development 193

Bodily Growth and Change	193
Sleep Patterns and Problems	193
Brain Development	196
Motor Skills	196

Health and Safety 198

Obesity	198
Undernutrition	199
Food Allergies	200
Oral Health	200
Deaths and Accidental Injuries	201
Health in Context: Environmental Influences	201

COGNITIVE DEVELOPMENT 205

Piagetian Approach: The Preoperational Child 205

Advances of Preoperational Thought	205
Immature Aspects of Preoperational Thought	208
Theory of Mind	210

Information-Processing Approach: Memory 213

Basic Processes and Capacities	214
Recognition and Recall	215
Forming and Retaining Childhood Memories	215

Intelligence: Psychometric and Vygotskian Approaches 216

Traditional Psychometric Measures	216
Influences on Measured Intelligence	217
Testing and Teaching Based on Vygotsky's Theory	218



Language Development 219
 Vocabulary 219
 Grammar and Syntax 219
 Pragmatics and Social Speech 220
 Private Speech 220
 Delayed Language Development 220
 Preparation for Literacy 221
 Media and Cognition 221

Early Childhood Education 222
 Types of Preschools 222
 Compensatory Preschool Programs 223
 The Child in Kindergarten 224

summary and key terms 225

Research in Action Food Security 199

Window on the World Surviving the First Five Years of Life 203

chapter 8

Psychosocial Development in Early Childhood 228

The Developing Self 229
 The Self-Concept and Cognitive Development 229
 Self-Esteem 230
 Regulating Emotions 231
 Understanding Emotions 232
 Erikson: Initiative versus Guilt 233

Gender 233
 Gender Differences 233
 Perspectives on Gender Development 234

Play 240
 Cognitive Levels of Play 241
 The Social Dimension of Play 242
 Gender and Play 243
 Culture and Play 244

Parenting 244
 Forms of Discipline 245
 Parenting Styles 247
 Special Behavioral Concerns 248

Relationships with Other Children 251
 Sibling Relationships 251
 The Only Child 252
 Playmates and Friends 253

summary and key terms 254

Research in Action The Adaptive Nature of Play 241

Window on the World Age Segregation versus Mixed-Age Play 253

4 Middle Childhood

part



Adam Gray/Barcroft Images/Barcroft Media/Getty Images

chapter 9

Physical and Cognitive Development in Middle Childhood 256

PHYSICAL DEVELOPMENT 257

Aspects of Physical Development 257
 Height and Weight 257
 Tooth Development and Dental Care 257
 Nutrition 258
 Sleep 258
 Brain Development 259
 Motor Development and Physical Activity 260

Health, Fitness, and Safety 262

Obesity and Body Image 262
 Other Medical Conditions 264
 Accidental Injuries 266

COGNITIVE DEVELOPMENT 266

Piagetian Approach: The Concrete Operational Child 266

Cognitive Advances 267

Information-Processing Approach: Planning, Attention, and Memory 270

The Development of Executive Functioning 270
 Selective Attention 271
 Working Memory 271
 The Development of Memory Strategies 272



Psychometric Approach: Assessment of Intelligence 273

The IQ Controversy 273

Influences on Intelligence (IQ) 274

Is There More Than One Intelligence? 275

Other Directions in Intelligence Testing 278

Language and Literacy 278

Vocabulary, Grammar, and Syntax 278

Pragmatics: Knowledge about Communication 279

Second-Language Learning 279

Becoming Literate 280

The Child in School 281

Influences on School Achievement 281

Educating Children with Special Needs 285

Children with Learning Problems 285

Gifted Children 287

summary and key terms 289

Research in Action Barbie Dolls and Girls' Body Image 263

Window on the World Culture and IQ 276

chapter 10

Psychosocial Development in Middle Childhood 292

The Developing Self 293

Self-Concept Development: Representational Systems 293

Industry versus Inferiority 293

Emotional Growth 294

The Child in the Family 295

Family Atmosphere 295

Family Structure 298

Sibling Relationships 304

The Child in the Peer Group 305

Positive and Negative Effects of Peer Relations 305

Gender and Peer Groups 306

Popularity 306

Friendship 307

Aggression and Bullying 308

Mental Health 313

Common Emotional Problems 313

Treatment Techniques 315

Resilience 316

summary and key terms 318

Window on the World Bullying: A Worldwide Problem 312

Research in Action Children's Experiences with Terrorist Attacks 317

5 Adolescence

part



SolStock/E+/Getty Images

chapter 11

Physical and Cognitive Development in Adolescence 320

Adolescence: A Developmental Transition 321

Adolescence as a Social Construction 321

Adolescence: A Time of Opportunities and Risks 321

PHYSICAL DEVELOPMENT 322

Puberty 322

How Puberty Begins: Hormonal Changes 322

Timing, Signs, and Sequence of Puberty and Sexual Maturity 323

Implications of Pubertal Timing 325

The Adolescent Brain 326

Physical and Mental Health 328

Physical Activity 328

Sleep Needs and Problems 329

Nutrition and Eating Disorders 329

Use and Abuse of Drugs 333

Depression 335

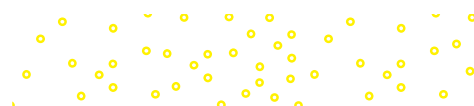
Death in Adolescence 336

COGNITIVE DEVELOPMENT 337

Aspects of Cognitive Maturation 337

Piaget's Stage of Formal Operations 337

Immature Aspects of Adolescent Thought 338



Language Development 340

Moral Reasoning: Kohlberg's Theory 340

An Ethic of Care: Gilligan's Theory 343

Prosocial Behavior 343

Educational and Vocational Issues 344

Influences on School Achievement 344

Dropping Out of High School 347

Preparing for Higher Education or Vocations 349

summary and key terms 350

Window on the World Culture and Cognition 339

Research in Action Teens and Media Multitasking 348

6 Emerging and Young Adulthood

part



nycshooter/Vetta/Getty Images

chapter 12

Psychosocial Development in Adolescence 352

The Search for Identity 353

Identity versus Identity Confusion 353

Identity Status—Crisis and Commitment 354

Gender Differences in Identity Formation 355

Ethnic Factors in Identity Formation 355

Sexuality 357

Sexual Orientation and Identity 357

Sexual Behavior 360

Sexually Transmitted Infections (STIs) 362

Teenage Pregnancy and Childbearing 364

Relationships with Family, Peers, and Adult Society 366

The Myth of Adolescent Rebellion 366

Adolescents and Parents 367

Adolescents and Siblings 372

Adolescents and Peers 372

Antisocial Behavior and Juvenile Delinquency 377

Biological Influences 377

Environmental Influences 378

Long-Term Prospects 378

Preventing and Treating Delinquency 379

summary and key terms 380

Window on the World Culture and Discretionary Time 368

Research in Action Teen Dating and Technology 376

chapter 13

Physical and Cognitive Development in Emerging and Young Adulthood 382

Emerging Adulthood 383

PHYSICAL DEVELOPMENT 383

Health and Fitness 383

Health Status and Health Issues 383

Genetic Influences on Health 384

Behavioral Influences on Health and Fitness 385

Indirect Influences on Health 390

Mental Health Problems 392

Sexual and Reproductive Issues 393

Sexual Behavior and Attitudes 393

Sexually Transmitted Infections (STIs) 394

Menstrual Disorders 395

Infertility 395

COGNITIVE DEVELOPMENT 396

Perspectives on Adult Cognition 396

Beyond Piaget: New Ways of Thinking in Adulthood 396

Schaie: A Life-Span Model of Cognitive Development 398

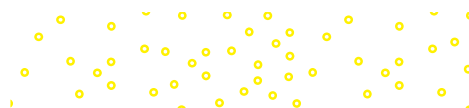
Sternberg: Insight and Know-How 399

Emotional Intelligence 399

Moral Reasoning 400

Culture and Moral Reasoning 401

Gender and Moral Reasoning 401



Education and Work 401
 The College Transition 402
 Entering the World of Work 405
summary and key terms 407
Window on the World Internet Use around the World 388
Research in Action In Vitro Fertilization 397

chapter 14

Psychosocial Development in Emerging and Young Adulthood 410

Emerging Adulthood: Patterns and Tasks 411
 Varied Paths to Adulthood 411
 Identity Development in Emerging Adulthood 412
 Developing Adult Relationships with Parents 413
 Personality Development: Four Views 415
 Normative-Stage Models 415
 Timing-of-Events Model 417
 Trait Models: Costa and McCrae's Five Factors 417
 Typological Models 419
 Foundations of Intimate Relationships 420
 Friendship 420
 Love 421
 Marital and Nonmarital Lifestyles 422
 Single Life 422
 Gay and Lesbian Relationships 423
 Cohabitation 424
 Marriage 426
 Parenthood 429
 Men's and Women's Involvement in Parenthood 429
 Parenthood and Marital Satisfaction 430
 Dual-Income Families 431
 When Marriage Ends 432
 Divorce 432
 Remarriage and Stepparenthood 434
summary and key terms 435
Window on the World Popular Wedding Traditions across Cultures 428
Research in Action Intimate Partner Violence 433

7 Middle Adulthood

part



Digital Vision/Alamy Stock Photo

chapter 15

Physical and Cognitive Development in Middle Adulthood 438

Middle Age: A Social Construct 439

PHYSICAL DEVELOPMENT 440

Physical Changes 440
 Sensory and Psychomotor Functioning 440
 The Brain at Midlife 442
 Structural and Systemic Changes 443
 Sexuality and Reproductive Functioning 443

Physical and Mental Health 447

Health Trends at Midlife 448
 Behavioral Influences on Health 448
 Socioeconomic Status and Health 449
 Race/Ethnicity and Health 450
 Gender and Health 450
 Stress in Middle Age 454
 Emotions and Health 455
 Mental Health 456

COGNITIVE DEVELOPMENT 456

Measuring Cognitive Abilities in Middle Age 456

Schaie: The Seattle Longitudinal Study 457
 Horn and Cattell: Fluid and Crystallized Intelligence 458

The Distinctiveness of Adult Cognition 458

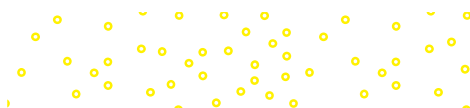
The Role of Expertise 459
 Integrative Thought 459

Creativity 460

Characteristics of Creative Achievers 460
 Creativity and Age 461

Work and Education 461

Work and Retirement Age 461
 Work and Cognitive Development 462
 The Mature Learner 462



summary and key terms 463

Window on the World Cultural Differences in Menopause 445

Research in Action Andropause and Testosterone Replacement Therapy 446

8 Late Adulthood

part



Dave and Les Jacobs/Blend Images LLC

chapter 16

Psychosocial Development in Middle Adulthood 466

Looking at the Life Course in Middle Age 467

Change at Midlife: Theoretical Approaches 467

Trait Models 467

Normative-Stage Models 468

Timing of Events: The Social Clock 469

The Self at Midlife: Issues and Themes 471

Is There a Midlife Crisis? 471

Identity Development 472

Psychological Well-Being and Positive Mental Health 475

Relationships at Midlife 478

Theories of Social Contact 478

Relationships, Gender, and Quality of Life 479

Consensual Relationships 480

Marriage 480

Cohabitation 480

Divorce 481

Marital Status, Well-Being, and Health 482

Gay and Lesbian Relationships 483

Friendships 484

Relationships with Maturing Children 485

Adolescent Children 485

When Children Leave: The Empty Nest 485

Parenting Grown Children 486

Other Kinship Ties 487

Relationships with Aging Parents 487

Relationships with Siblings 490

Grandparenthood 490

summary and key terms 493

Research in Action Midlife Career Change 473

Window on the World The Global “Sandwich Generation” 489

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 499

PHYSICAL DEVELOPMENT 500

Longevity and Aging 500

Trends and Factors in Life Expectancy 501

Why People Age 502

How Far Can the Life Span Be Extended? 504

Physical Changes 506

Organic and Systemic Changes 506

The Aging Brain 507

Sensory and Psychomotor Functioning 508

Sleep 511

Sexual Functioning 511

Physical and Mental Health 512

Health Status 512

Chronic Conditions and Disabilities 512

Lifestyle Influences on Health and Longevity 513

Mental and Behavioral Problems 515

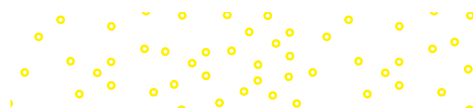
COGNITIVE DEVELOPMENT 519

Aspects of Cognitive Development 519

Intelligence and Processing Abilities 520

Memory and Aging 522

Wisdom 525



summary and key terms 526

Window on the World Elder Care
Worldwide 499

Research in Action The Oldest Old 505

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 529

Well-Being in Late Adulthood 531

Coping and Mental Health 532

Models of “Successful,” or “Optimal,” Aging 535

Practical and Social Issues Related to Aging 537

Work and Retirement 537

How Do Older Adults Fare Financially? 540

Living Arrangements 540

Personal Relationships in Late Life 544

Theories of Social Contact and Social Support 545

The Importance of Social Relationships 545

The Multigenerational Family 546

Marital Relationships 546

Long-Term Marriage 546

Widowhood 548

Divorce and Remarriage 548

Nonmarital Lifestyles and Relationships 549

Single Life 549

Cohabitation 550

Gay and Lesbian Relationships 550

Friendships 551

Nonmarital Kinship Ties 551

Relationships with Adult Children 551

Relationships with Siblings 552

summary and key terms 553

Window on the World Aging Stereotypes
Worldwide 538

Research in Action Elder Abuse 544

9 The End of Life

part



Daniel Allan/Getty Images

chapter 19

Dealing with Death and Bereavement 556

The Many, Changing Meanings of Death and Dying 557

The Cultural Context 557

The Mortality Revolution 557

Care of the Dying 559

Facing Death and Loss 559

Physical and Cognitive Changes Preceding Death 559

Confronting One's Own Death 560

Patterns of Grieving 561

Attitudes about Death and Dying across the Life Span 562

Significant Losses 565

Surviving a Spouse 565

Losing a Parent in Adulthood 566

Losing a Child 567

Mourning a Miscarriage 567

Medical, Legal, and Ethical Issues: The “Right to Die” 568

Suicide 568

Hastening Death 570

Finding Meaning and Purpose in Life and Death 575

Reviewing a Life 575

Development: A Lifelong Process 576

summary and key terms 576

Window on the World Cultural Variations
in Funeral Customs 558

Research in Action Physician-Assisted Suicide 574



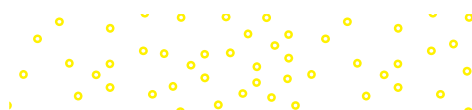
McGraw-Hill Psychology APA
Documentation Style Guide

Glossary G-1

Bibliography B-1

Name Index I-1

Subject Index I-31



CONTENTS

EXPERIENCE HUMAN DEVELOPMENT | XV

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.




McGraw-Hill Education Connect is a digital assignment and assessment platform that strengthens the link between faculty, students, and coursework, helping everyone accomplish more in less time. Connect Lifespan Development includes assignable and assessable videos, quizzes, exercises, and interactivities, all associated with learning objectives. Interactive assignments and videos allow students to experience and apply their understanding of psychology to the world with fun and stimulating activities.

A Personalized Experience That Leads to Improved Learning and Results

How many students think they know everything about human development but struggle on the first exam? Students study more effectively with Connect and SmartBook.

- Connect's assignments help students contextualize what they've learned through application, so they can better understand the material and think critically.
- Connect reports deliver information regarding performance, study behavior, and effort so instructors can quickly identify students who are having issues or focus on material that the class hasn't mastered.

of Development

 **SMARTBOOK**® SmartBook™ personalizes student learning to individual student needs, continually adapting to pinpoint knowledge gaps and focus learning on topics that need the most attention. Study time is productive and, as a result, students are better prepared for class and coursework. For instructors, SmartBook tracks student progress and provides insights that can help guide teaching strategies.

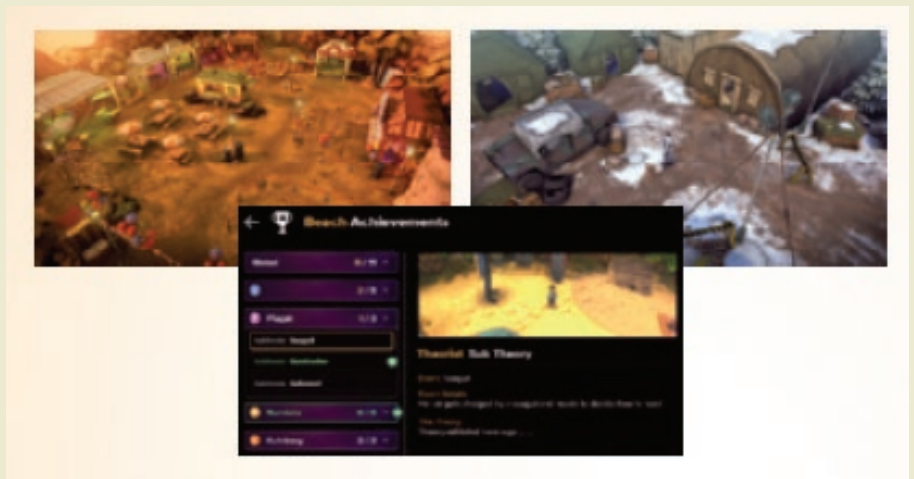
New to this edition, SmartBook is now optimized for mobile and tablet and is accessible for students with disabilities. Content-wise, it has been enhanced with improved learning objectives that are measurable and observable to improve student outcomes.

Apply Concepts and Theory in an Immersive Learning Environment



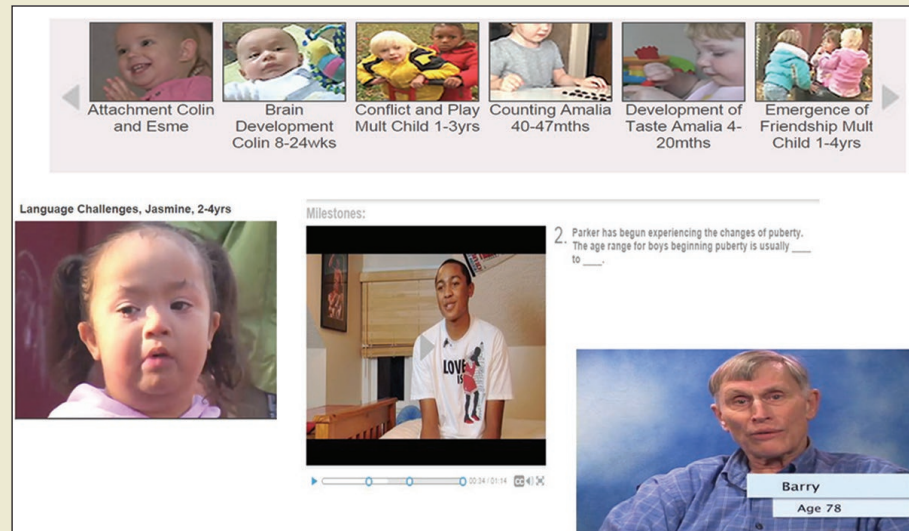
An engaging and innovative learning game, **Quest: Journey Through the Lifespan**, provides students with opportunities to apply content from their human development curriculum to real-life scenarios. Students play unique characters who range in age and make decisions that apply key concepts and theories for each age as they negotiate events in an array of authentic environments. Additionally,

as students analyze real-world behaviors and contexts, they are exposed to different cultures and intersecting biological, cognitive, and socioemotional processes. Each quest has layered replayability, allowing students to make new choices each time they play—or offering different students in the same class different experiences. Fresh possibilities and outcomes shine light on the complexity of and variations in real human development. This new experiential learning game includes follow-up questions, assignable in Connect and auto-graded, to reach a higher level of critical thinking.



Real People, Real World, Real Life

At the higher end of Bloom's taxonomy (analyze, evaluate, create), the McGraw-Hill **Milestones** video series is an observational tool that allows students to experience life as it unfolds, from infancy to late adulthood. This groundbreaking, longitudinal video series tracks the development of real children as they progress through the early stages of physical, social, and emotional development. In their first few weeks, months, and years of life. Assignable and assessable within Connect Lifespan Development, Milestones also includes interviews with adolescents and adults to reflect development through the entire life span.



Power of Process for PSYCHOLOGY



Prepare Students for Higher-Level Thinking

Also at the higher end of Bloom's taxonomy, **Power of Process of Lifespan Development** helps students improve critical-thinking skills and allows instructors to assess these skills efficiently and effectively in an online environment. Available through Connect, preloaded journal articles are available for instructors to assign. Using a scaffolded framework such as understanding, synthesizing, and analyzing, Power of Process moves students toward higher-level thinking and analysis.

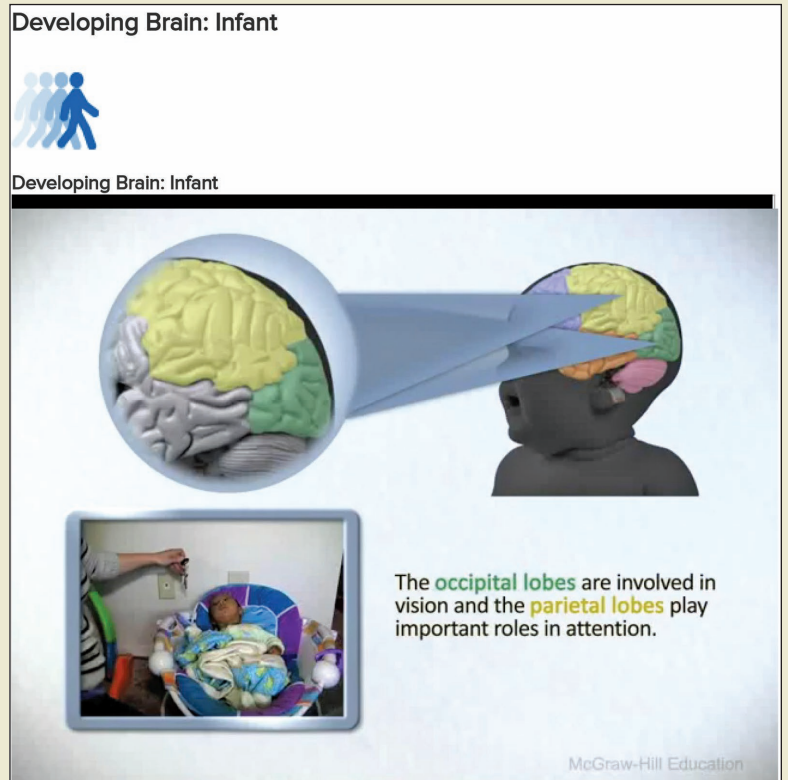
Inform and Engage on Psychological Concepts

At the lower end of Bloom's taxonomy, students are introduced to **Concept Clips**—the dynamic, colorful graphics and stimulating animations that break down some of psychology's most difficult concepts in a step-by-step manner, engaging students and aiding in retention. They are assignable and assessable in Connect or can be used as a jumping-off point in class. Now with audio narration, this edition also includes new Concept Clips on topics such as object permanence and conservation, as well as theories and theorists such as Bandura's social cognitive theory, Vygotsky's sociocultural theory, Buss's evolutionary theory, and Kuhl's language development theory.

Powerful Reporting

Whether a class is face-to-face, hybrid, or entirely online, McGraw-Hill Connect provides the tools needed to reduce the amount of time and energy instructors spend administering their courses. Easy-to-use course management tools allow instructors to spend less time administering and more time teaching, while reports allow students to monitor their progress and optimize their study time.

- The **At-Risk Student Report** provides instructors with one-click access to a dashboard that identifies students who are at risk of dropping out of the course due to low engagement levels.
- The **Category Analysis Report** details student performance relative to specific learning objectives and goals, including APA learning goals and outcomes and levels of Bloom's taxonomy.
- **Connect Insight** is a one-of-a-kind visual analytics dashboard—available for both instructors and students—that provides at-a-glance information regarding student performance.
- The **SmartBook Reports** allow instructors and students to easily monitor progress and pinpoint areas of weakness, giving each student a personalized study plan to achieve success.



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

- Updated example on applied impact of psychological research on lives.
- New metaphor added on how domains of development interact.
- Revised description of nature and nurture.
- Updated statistics on family composition in the United States, global and United States poverty rates, and majority/minority group population projections.
- Revised section on socioeconomic status.
- New research added on risks to children raised in affluent families.
- New concept added: ethnic gloss.
- Updated Window on the World box.
- New Research in Action box on infant-directed speech.

2 Theory and Research

- Expanded discussion on why theories are revised when new evidence emerges.
- Expanded discussion on qualitative change and the addition of an example.
- Expanded critique and review of Erikson's theory of psychosocial development and its impact on the field.
- Expanded discussion of, introduction to, and critique of learning perspectives.
- New example added for observational learning.
- Revised introduction to Piaget.
- Expanded description of disequilibrium.
- New example added for scaffolding.
- Revised discussion of evolutionary and sociobiological approaches.
- New key term added: operational definition.
- Inclusion of updated research to illustrate longitudinal design.
- New information added on the reproducibility crisis in the social sciences and the open science movement.

3 Forming a New Life

- New research added on the timing of the fertile window of conception.
- Expanded and updated information on the causes and consequences of twins and multiple births in the United States and globally.
- Revised and updated research on sexual differentiation.
- Revised example of dominant/recessive inheritance.
- Revised description and new example of multifactorial transmission of traits.
- Revised and updated explanation of epigenetic processes with new examples.
- Updated statistics on rates of genetic and chromosomal abnormalities in infants born to different racial and ethnic groups and birthrates for children with Down syndrome in the United States.
- Updated research on outcomes for people with Down syndrome.
- New Research in Action box on epigenetics.
- Revised explanation of heritability estimates and canalization.
- Updated obesity statistics and updated genetic and environmental risk factors for obesity.
- Revised and updated research on influences on intelligence.
- Revised section on temperament and updated research on temperament influences.
- Updated research on genetic and environmental risk factors for schizophrenia.
- New key terms added: cephalocaudal and proximodistal principles of development.
- New research added on when fetuses can feel pain.
- Revised and updated research on fetal perceptual and cognitive development.
- Updated information on recommended weight gain and diet during pregnancy.
- New research added on calorie deficits and micronutrient deficiencies during pregnancy.

- New section added on opioid use and abuse during pregnancy and neonatal abstinence syndrome.
- Updated research on caffeine intake, marijuana, cocaine, and methamphetamine use during pregnancy.
- Updated statistics on the risk of contracting measles and maternal age in the United States.
- Updated research on the influence of environmental hazards and advanced paternal age on pregnancy outcomes.
- Updated information on monitoring pregnancies, including new information on prenatal cell-free DNA scans, embryoscopy, and umbilical cord sampling.
- Updated information on U.S. prenatal care disparities and fetal and infant mortality.
- New Window on the World box on prenatal care around the world.

4 Birth and Physical Development during the First Three Years

- Updated global and U.S. statistics on complications of childbirth.
- Updated statistics on cesarean delivery and the use of forceps during delivery in the United States.
- Updated statistics and research on outcomes for women who attempt a vaginal birth after cesarean (VBAC).
- New research added on the use of epidurals for pain relief during delivery.
- Expanded material on doulas, including new research on improved outcomes and economic benefits associated with the use of doulas.
- New research added on developmental changes and cultural differences in sleep patterns, and outcomes associated with poor sleep.
- Updated statistics on the prevalence of low-birth-weight babies.
- Revised and updated research on treatment and immediate and long-term outcomes for preterm infants.
- Updated statistics on the prevalence of postterm delivery and stillbirth in the United States.
- Updated global and U.S. statistics on infant and maternal mortality.
- Updated statistics and research on racial and ethnic disparities in infant mortality in the United States.
- Updated statistics on the prevalence of sudden infant death syndrome (SIDS).
- New information added on the “triple risk” model of SIDS.

- Updated research on genetic and environment triggers for SIDS.
- Updated statistics on infant deaths from unintentional injuries.
- Updated statistics on global and U.S. childhood immunization statistics and research showing no link between vaccines and autism.
- Updated research on eating patterns in infants and toddlers.
- Updated statistics and research on the prevalence of obesity in infants and toddlers and risk factors for obesity.
- New Window on the World box on the effects of malnutrition in the first 1,000 days of life.
- Revised Research in Action feature on autism.
- Revised and updated section on myelination of the brain.
- Expanded section on pain perception in infancy.
- Revised and updated research on the development of smell and taste and visually guided reaching.
- Revised, updated, and expanded research on the development of hearing.
- New research added on infants’ preference for faces.
- Updated and expanded research on haptic perception.

5 Cognitive Development during the First Three Years

- Revised and updated research on the use of operant training to test infant memory.
- Updated research on correlates of the Home Observation for Measurement of the Environment (HOME) inventory and outcomes of early intervention programs.
- Revised and updated research on the development of imitative abilities in young children.
- Revised and reorganized research on the object concept.
- New research added on children’s understanding of symbols presented in picture books, e-books, and television.
- Expanded and updated research on auditory discrimination in fetuses and newborns and developmental processes in attention.
- Updated research on core cognitive domains in infancy associated with later IQ.
- Updated Research in Action box on the effects of television viewing on infants and toddlers.
- New research added on infant categorization of language and music.

- Updated research on the development of an understanding of causality in infants.
- Expanded description of how violation-of-expectations research has allowed researchers to investigate naïve principles of physics in infants.
- Revised and updated research on the development of number sense in infants.
- Expanded defense of violation-of-expectations research and the existence of cognitive modules and core systems of knowledge.
- New information added on the application of the Vygotskian approach to early childhood education.
- Expanded definition of phonemes and added new example.
- Revised and updated information and research on the development of phonemic perception and understanding structural features of language.
- Expanded the information and research on symbolic gestures in toddlers.
- Revised and updated research on first words.
- New section added on variations in language development, including new research on deaf and bilingual children.
- Revised and updated research on brain development and language, and the role of social interaction in language development.
- Expanded information and research on child directed speech (CDS) across cultures and the link between CDS and later language development.
- Added new Window on the World box on literacy and children's books.

- areas associated with inhibition and the development of self-regulatory strategies.
- Revised and updated research on gender differences in infants and toddlers, with new research added on differences in social behavior, sex-typed toy preferences, and the role of prenatal androgen exposure.
- Revised and updated research on parental influences on gender, with new research added on implicit messages and expanded research on cultural differences in fathers' interactions.
- New research added on neurological correlates of parental attachment history, and cardiac and hormonal correlates of interactional synchrony in parent-child interactions.
- Revised Research in Action box on postpartum depression.
- Updated and expanded research on the development of self-awareness in the 2nd year of life and successful socialization processes.
- Revised and expanded section on siblings.
- New information added on preschoolers' preferred playmates.
- Updated statistics on maternal labor force participation rates, early child care, child maltreatment in infancy and toddlerhood, and characteristics of abusive and neglectful parents and families.
- New research added on cultural influences on abuse and neglect.
- Revised and updated research on long-term effects of maltreatment.

6 Psychosocial Development during the First Three Years

- Revised and expanded discussion of crying, with a greater focus on its functional nature.
- New research added on reciprocal positive exchanges between infants and adults.
- Updated research and theory on the development of altruistic behavior in infants.
- Updated research on mirror neurons and new critique added.
- New section added on the development of collaborative activities and cultural transmission.
- Revised and updated section on the stability of temperament with new research added on cultural differences.
- Revised and updated research on goodness of fit.
- Revised and updated research on behavioral inhibition, with an increased focus on brain

7 Physical and Cognitive Development in Early Childhood

- Updated statistics on physical growth norms in children.
- Updated and expanded research and statistics on sleep problems in children.
- New research added on links between sleepwalking, sleeptalking, and night terrors.
- Updated and expanded research on nightmares, enuresis, and handedness.
- New research added on correlates of motor coordination in childhood.
- Updated statistics on global and U.S. childhood obesity prevalence rates.
- Updated research on environmental influences on obesity.
- Updated research and discussion on obesity prevention and intervention programs.

- Revised, updated, and expanded information on undernutrition, including a new focus on the differentiation of stunting and wasting.
- Revised Research in Action box on food insecurity.
- Updated statistics on the prevalence of food allergies in U.S. children.
- Updated research and theory on the causes of food and skin allergies.
- New section added on oral health.
- Updated global and U.S. statistics on deaths and accidental injuries.
- Expanded information on car accidents and young children.
- Updated statistics on health insurance coverage and racial, ethnic and socioeconomic disparities in coverage for U.S. children.
- Updated information on the Affordable Care Act and the repeal of the individual mandate.
- Revised Window on the World box on surviving the first 5 years of life.
- Updated statistics and research on homelessness in U.S. children.
- Updated statistics on U.S. children's exposure to environmental pollutants.
- New research added on children's ability to reason causally, deception, children's ability to lie, the influence of religion on children's understanding of stories, the relationship between imagination and creativity, cultural influences on theory of mind development, and executive function.
- Revised and updated research on animism in children.
- Revised, updated, and expanded research on children's understanding of number.
- New example added to illustrate theory of mind.
- Updated research on and revised discussion of theory of mind.
- Updated research on children's knowledge about thinking and mental states.
- New example added to illustrate false beliefs.
- Updated research on children's ability to distinguish between appearance and reality.
- Revised and updated research on individual differences in theory of mind development.
- Revised and updated theory and research on genetic and environmental influences on intelligence, with an enhanced focus on interactions.
- Updated examples of the use of scaffolding in childhood education.

- Revised and updated theory and research on private speech.
- Updated statistics on speech and language disorders in children.
- Revised and updated research and discussion on preparation for literacy.
- Revised, updated, and expanded research on media and cognition.

8

Psychosocial Development in Early Childhood

- New section added on cultural differences in self-definition.
- Revised and updated research on contingent self-esteem.
- Revised and updated research on emotion regulation, with added emphasis on cultural differences.
- Revised, updated, and expanded research on understanding emotions and gender differences in cognition.
- New key term added: social emotions.
- Revised and updated research on the influence of prenatal hormone exposure on gender development.
- New research added on biological influences in transgender gender development.
- Revised discussion of evolutionary influences on gender.
- Expanded and updated critique of Kohlberg's analysis of cognitive influences on gender development.
- Updated critique of theories relating gender schema to gender-typing.
- Revised and updated research on family, peer, and cultural influences on gender-typing in children.
- Revised Research in Action box on the evolutionary significance of play.
- Revised and updated research on the social dimensions of play, and gender and play.
- Revised, updated, and expanded section on culture and play and corporal punishment, with an emphasis on bidirectionality between parent-child interactions and cultural differences.
- Expanded critique of Baumrind's model of parenting styles with a focus on cultural differences.
- Revised and updated research on the development of prosocial behavior.

- New research added on cross-cultural differences in levels of relational aggression.
- Updated statistics on only children in the United States and China.
- New Window on the World box on age segregation and mixed-age play in children.

9

Physical and Cognitive Development in Middle Childhood

- Updated statistics on physical growth norms for middle childhood.
- Added new section on tooth development and dental care.
- Revised, updated, and expanded research on nutrition and sleep in middle childhood.
- New research added on outcomes associated with poor sleep quality.
- Revised and updated research on brain development in middle childhood.
- Updated U.S. statistics on physical activity and trends in childhood obesity.
- Revised and updated research on recess and participation in organized sports.
- Updated global and U.S. statistics on childhood overweight and obesity.
- Revised and updated research on the causes and outcomes of obesity.
- Revised Research in Action box on the influence of Barbie dolls on girls' body image.
- Updated research and discussion on childhood obesity prevention and intervention programs.
- Revised and updated research on asthma prevalence rates and causes.
- New section added on childhood hypertension.
- Updated statistics on accidental injuries in middle childhood.
- New section added on the understanding of causality in middle childhood.
- Revised and updated research on the development of categorization, number and mathematics understanding, executive functioning, and the influence of brain development and race/ethnicity on intelligence.
- New research added on the influence of training programs on working memory.
- Revised, updated, and expanded research on the development of metamemory processes and the influence of schooling on IQ scores.

- New Window on the World box on the influence of culture on IQ scores.
- Updated statistics on non-English-speaking children in the United States.
- New research added on the influence of e-books on emerging literacy skills.
- Revised and updated research on the influence of self-efficacy, gender differences, parental involvement, socioeconomic status, and class size on academic achievement.
- Revised, updated, and expanded research on the influence of peer acceptance on academic achievement.
- Updated information on U.S. government regulatory processes and their effects on student academic achievement outcomes.
- Updated statistics on the number of U.S. children being homeschooled and in charter and schools.
- New research and critique added on the efficacy of homeschooling.
- Updated U.S. statistics on media usage in classrooms, media use habits in children, the prevalence of learning disabilities, the use of special education services, and the number of gifted children in the public school system.
- Updated global and U.S. statistics on the prevalence of attention-deficit/hyperactivity disorder in childhood.

10

Psychosocial Development in Middle Childhood

- Revised and updated research on emotional growth and coregulation, with expanded content on cultural differences.
- Updated statistics and research on maternal employment and child care arrangements.
- Updated U.S. statistics on the number of children living in poverty, trends in family structure, divorce rates, and single-parent, cohabitating, and gay/lesbian families.
- Revised and updated research on the effects of poverty and family conflict on children's development, buffers for negative outcomes, and immediate and long-term adjustment to divorce.
- Revised and expanded research on children's adjustment to custody and coparenting and outcomes associated with cohabitating families.
- Revised and updated research on outcomes for children from single-parent families.

- Updated statistics and research on stepfamilies.
- Updated research on the development and outcomes of children from gay and lesbian families.
- Updated statistics on U.S. adoption, including a review of social and economic changes affecting trends in adoption.
- Revised and updated research on the outcomes of adopted children.
- Revised, updated, and expanded research on sibling relationships.
- Revised and updated research on prejudice in the peer group, sociometric popularity and rejection, friendship in middle childhood, physical and relational aggression, and risk factors in bullying.
- New section added on gender and peer groups.
- Updated statistics and research on the influence of media violence on aggression.
- New Window on the World box on bullying around the world.
- Added new statistics and research on cyberbullying.
- Updated statistics on the prevalence of mental health problems in middle childhood.
- Updated and revised statistics and research and disruptive conduct disorders in middle childhood.
- New information added on global rates of child depression and updated statistics on the prevalence of childhood depression in the United States.
- New discussion added on the use of drug therapy to address childhood emotional disorders.

11

Physical and Cognitive Development in Adolescence

- Revised and updated research on timing of puberty and ethnicity.
- Updated statistics on the age at menarche in the United States.
- Revised, updated, and expanded research on pubertal timing, with new research added on the role of endocrine-disrupting chemicals.
- New section added on the implications of pubertal timing for physical and psychosocial outcomes.
- Revised, updated, and expanded research on brain changes in adolescence, including new

research on neurobehavioral susceptibility to social reward cues.

- New section added on physical activity in adolescence.
- Updated statistics on sleep patterns in adolescence.
- Revised and updated research on sleep deprivation in adolescence.
- Updated global and U.S. statistics on overweight and obesity in adolescence.
- Revised and updated research on the causes, consequences, and interventions to address obesity in adolescence, body image, body satisfaction, and risk factors for unhealthy weight control behaviors in adolescence.
- Updated statistics on the prevalence of anorexia nervosa, bulimia nervosa, and binge eating disorder.
- New key term: binge eating disorder.
- Updated research on the treatment of eating disorders.
- Updated statistics on U.S. drug use and abuse in adolescence, including information on overall trends, dextromethorphan, legal and illegal narcotics, alcohol, marijuana, and cigarettes, with new statistics added on the use of e-cigarettes.
- Updated statistics on global trends in alcohol and tobacco use in adolescence.
- New research added on brain changes in adolescence associated with alcohol use.
- Updated research on correlates of marijuana use.
- Updated statistics on the prevalence of depression in U.S. adolescents.
- Updated research on risk factors and treatment options for depression.
- Updated global and U.S. statistics on adolescent mortality.
- Revised, updated, and expanded research on deaths from accidents and firearms in U.S. adolescents.
- Updated statistics on and research for prevalence rates and risk factors of suicide.
- New section added on immature aspects of adolescent thought.
- New Window on the World box on culture and cognition.
- Expanded critique of Kohlberg's theory of moral reasoning.
- Revised, updated, and expanded research on prosocial development.

- Updated statistics on U.S. high school graduation rates and international comparisons.
- Revised and updated research on the influence of motivation and self-efficacy on academic achievement.
- Revised, updated, and expanded research on gender differences in brain structure and organization relevant to academic achievement, the influence of parenting, ethnicity, and peers on academic achievement.
- New statistics added on trends in number of doctoral degrees awarded to men and women in the United States and media use by adolescents and teachers.
- Revised, updated, and expanded research on the influence of media use on cognitive processes.
- Updated statistics on U.S. high school dropout rates, gender and vocational choice, and student employment rates.
- New statistics added on unemployment rates and median income by degree obtained.
- New Research in Action box on teens and media multitasking.

12 Psychosocial Development in Adolescence

- Revised and updated research on gender and ethnic differences in identity formation.
- New research added on perceived discrimination.
- Updated statistics on self-reported prevalence of gay, lesbian, and bisexual identity and behaviors in adolescents.
- Revised, updated, and expanded research on the origins of sexual orientation, gender identity development in sexual minority youth, and risk and protective factors for sexual risk-taking in adolescence.
- New research added on the influence of prenatal hormones on sexual orientation.
- New research added on identity development in transgender youth.
- Updated U.S. statistics on sexual behavior, the use of contraceptives, and human papilloma virus (HPV), chlamydia, and gonorrhea infections.
- Updated statistics for global and U.S. rates of adolescent sexually transmitted infections, hepatitis B and human immunodeficiency virus (HIV) infections, pregnancy, miscarriage, and abortion rates.

- New research added on HPV vaccination rates, risks, and benefits in U.S. adolescents.
- Revised and updated research on risk factors for teen pregnancy.
- Revised, updated, and expanded research on the impact of abstinence versus comprehensive sexual education programs, with new information added on recent changes in funding priorities in the United States.
- New Window on the World box on culture and discretionary time in adolescence.
- Revised and updated research on individuation and family conflict.
- New critique added on Baumrind's model of parenting styles.
- Revised and updated research on the influence of cohabitation and same-sex parenting, maternal employment, sibling influences, and friendships in adolescence.
- New section added on social media and electronic interactions.
- New Research in Action box on teen dating and technology.
- Revised and updated research on romantic relationships.
- Updated statistics on teen dating violence.
- Revised, updated, and expanded research on biological influences in juvenile delinquency, with new information added on the influence of arousal and attentional processes and neurobiological differences.
- Revised and updated research on environmental influences in juvenile delinquency, long-term prospects of juvenile delinquents, and the prevention and treatment of juvenile delinquency.

13 Physical and Cognitive Development in Emerging and Young Adulthood

- Updated statistics on health status in young adults in the United States.
- New information added on health insurance coverage in the United States, the passage of the Affordable Care Act, and the repeal of the individual mandate.
- Revised and updated research on genetic influences on health with depression as an illustrative example.
- Updated global and U.S. research on diet, nutrition, and obesity and overweight.

- Revised and updated research on the causes and consequences of and treatments for obesity.
- New research added on bariatric surgery.
- Revised and updated research and statistics on physical activity in young adults.
- New Window on the World box on internet use around the world.
- Updated research on stress and coping in young adults.
- Revised and updated research on the effect of sleep deprivation and cognitive and psychosocial functioning.
- Updated global and U.S. statistics on the prevalence of smoking.
- Updated statistics on alcohol use in U.S. college students and young adults.
- Updated research on smoking, smoking cessation programs, alcohol use, risky drinking, and the effects of social integration and social support on health.
- Updated statistics and research on prevalence of and risks associated with substance use disorders.
- New research added on developmental trends in the diagnosis of depression.
- Revised and updated research on sexual behaviors and attitudes in young adulthood.
- Updated global and U.S. statistics for the prevalence of sexually transmitted infection and human immunodeficiency virus (HIV) infection.
- Updated research on HIV prevention and intervention programs.
- Revised and updated research on menstrual disorders.
- Updated global and U.S. statistics on infertility.
- Updated research on causes of infertility.
- New Research in Action box on in vitro fertilization.
- Updated research on emotional intelligence.
- Updated statistics on U.S. college enrollment and graduation rates, with new information added on international college enrollment rates.
- Revised, updated, and expanded research on the influence of gender on occupational success.
- Updated statistics and discussion on the influence of socioeconomic status and race/ethnicity on college success, income, and college completion, the gender gap in earnings, and working while attending college.
- Revised and updated research on factors related to successful adjustment to college.

14

Psychosocial Development in Emerging and Young Adulthood

- New research added on three primary trajectories to adulthood.
- Revised and updated research on ethnic and cultural factors in identity formation, and relationships with parents in young adulthood.
- New U.S. statistics added on failure to launch.
- Revised and updated research on failure to launch in the United States and cross-culturally.
- New research added on gender differences in the development of intimacy.
- Revised and updated research on continuity and change in the five-factor model of personality, evaluations of the five-factor model, ego resiliency, friendships, and romantic relationships.
- New research added on the role of social media in friendships.
- Updated statistics and research on single life in the United States.
- New research added on the “friends-with-benefits” relationship pattern.
- Updated information on U.S. and international legality and acceptance of same-sex marriage and activity.
- New research added on the association between political and religious affiliations and acceptance of homosexuality.
- New statistics and research added on same-sex marriage in the United States.
- Updated research on relationships in gay and lesbian couples.
- Updated statistics and research on rates and attitudes about cohabitation internationally and in the United States.
- Revised and updated research on cohabitating relationships.
- Updated international and U.S. marriage statistics.
- New research added on the association of marriage and religious beliefs.
- New Window on the World box on cross-cultural marriage traditions.
- Revised, updated, and expanded research on infidelity and marital satisfaction.
- New research added on the use of technology for the purposes of extramarital affairs.
- New research added on the role of sexual activity in marital satisfaction.
- Updated U.S. statistics on childbirth and parenthood, women’s labor force participation rates, fathers’ participation in child care activities, dual-income families, remarriage, and stepparenthood.

- Updated research on parenthood and marital satisfaction.
- New research added on cultural differences in dual-income families.
- Updated statistics and research on U.S. divorce rates, attitudes, and predictors.
- New research added on gender differences for the relationship between employment and divorce.
- Revised and updated Research in Action box on intimate partner violence.
- Updated research on adjustment to divorce.

15

Physical and Cognitive Development in Middle Adulthood

- Updated U.S. statistics on middle-aged adults.
- Revised and updated research on health and psychological status in midlife.
- Updated statistics on visual and hearing problems in midlife.
- New statistics added on global prevalence rates for hearing loss.
- Revised, updated, and extended research on hearing loss in midlife.
- New research added on the loss of smell and taste in midlife.
- Revised and updated research of risk factors for and consequences of the loss of smell and taste.
- Revised, updated, and expanded research on loss of muscle strength and coordination in midlife and the brain at midlife.
- Updated research for declines in manual dexterity in midlife.
- New research added on the role of education, cognitive stimulation, and physical activity on brain functioning.
- Updated research on systemic changes in midlife.
- Revised, updated, and expanded information on the frequency and consequences of hot flashes and night sweats in menopausal women and the treatment of menopausal symptoms.
- Revised and updated Window on the World box on cultural differences in menopause.
- New Research in Action box on andropause and testosterone replacement therapy.
- New research added on international prevalence of erectile dysfunction.

- Updated research on causes of and treatments for erectile dysfunction.
- Updated U.S. statistics on sexual activity, health, cancer, heart attacks, and overweight in middle-aged adults.
- Revised and updated research on correlates of sexual activity and sexual satisfaction in middle-aged adults.
- Updated global and U.S. statistics on hypertension, with new information added on recent changes in risk cutoff guidelines.
- Revised and updated research on the association between physical activity, socioeconomic status, gender, and health at midlife.
- New information added on screening guidelines for prostate cancer.
- Revised, updated, and expanded research on bone loss in women at midlife.
- Updated statistics on prevalence rates of breast cancer in globally and in the United States.
- Updated research on risks for and treatment of breast cancer.
- Revised and updated research on and recommendations for the use of hormone therapy.
- Revised and updated research on how stress and emotions affect health.
- Updated statistics on subclinical and behavioral or emotional disorders meeting criteria for diagnosis in American adults at midlife.
- Revised and updated research on developmental trajectories of fluid and crystallized intelligence and characteristics of creative achievers.
- New research added on neurological correlates of creative achievers.
- New research added critiquing prior findings on declines in creative output with age.
- Updated statistics on U.S. participation in adult education programs.
- Updated statistics on global and U.S. literacy rates.

16

Psychosocial Development in Middle Adulthood

- New discussion added on recent trends on research on midlife.
- Revised and updated research on trait models of personality in midlife.
- New research added on contextual influences and cultural variations on personality.
- Revised, updated, and expanded research on gender differences in, and expression and consequences of generativity.
- New research added on the subjective sense of aging and outcomes associated with an “off-track” social clock.
- Revised and updated research on midlife crises.
- New Research in Action box on midlife career change.
- Updated research on generativity and positive life outcomes.
- Revised, updated, and expanded research on midlife changes in emotionality and personality and developmental changes in the size of social convoys.
- New research added on international data on well-being.
- New research added on the association of income and exercise with well-being.
- Revised and updated research on Wyff’s well-being scale, the association between relationships and well-being, and changes in marriage satisfaction over time.
- New statistics added on the prevalence of cohabitation in middle-aged American adults.
- Revised and updated research on reasons for and consequences of cohabitation.
- New cross-cultural research added on cohabitation.
- New statistics added on the prevalence of divorce in middle-aged American adults.
- Revised, updated, and expanded research on causes of and outcomes associated with divorce, and the relationship between marriage and well-being and health.
- New cross-cultural research added on marriage and well-being.
- Revised, updated, and expanded research on gay and lesbian relationships.
- New research added on the effects of the legalization of gay marriage in the United States.
- Updated research on the relationship between friendship and well-being.

- Revised and updated research on the relationship between adolescent children and parents, the empty nest, and prolonged parenting.
- Added new statistics on the number of middle-aged American adults caring for aging parents.
- Revised and updated research on strains of caregiving and sibling relationships at midlife.
- New Window on the World box added on the sandwich generation.
- Updated U.S. statistics on grandparenthood, extended family households, and grandparent care.
- Revised and expanded research on grandparent care across cultures.
- New statistics added on grandparent care in other cultures.
- Updated research on grandparent care after divorce and remarriage.
- Updated statistics and research on surrogate parenting by grandparents in the United States.

17

Physical and Cognitive Development in Late Adulthood

- Updated global and U.S. statistics on aging population demographics, gender differences in mortality, and mortality and life expectancy rate disparities across countries, racial/ethnic groups, socioeconomic status, and region.
- New Window on the World box on elder care worldwide.
- Revised and updated research on life expectancy, genetic and variable rate programming theories of death, and longevity.
- New research added on mitochondrial theories of aging.
- New research added on the signaling role of free radicals.
- New Research in Action box on the oldest old.
- New research added on morbidity compression.
- Revised and updated research on systemic changes with age.
- Revised, updated, and expanded research on brain changes with age.
- New research added on semanticized cognition.
- Updated U.S. and global statistics on visual impairment, cataracts, glaucoma, and hearing loss.

- Updated research on visual and hearing impairments.
- New research on cataract surgery and mortality risk.
- Updated statistics and research on physical changes and falls.
- New research added on functional fitness intervention programs.
- New key term: functional fitness.
- New research added on the relationship of exercise and cognition.
- Revised, updated, and expanded research on sleep.
- Updated statistics and research on sexual functioning and health status in old age.
- Updated global and U.S. statistics on leading causes of death and prevalence of dementia.
- Updated U.S. statistics on diabetes, hypertension, common chronic conditions, functional impairments, nutrition and periodontal disease, mental and behavioral problems, depression, and memory impairment in old age.
- Updated research on inactivity, diet, and periodontal disease in old age.
- Revised and updated research on depression.
- New statistics added on U.S. prevalence rates of Alzheimer's disease and Parkinson's disease in aged populations.
- Updated research on risk and protective factors for dementia, Alzheimer's disease, and dementia treatment approaches.
- New research added on the role of myelin repair in dementia progression.
- New research added on the use of computer algorithms and biomarkers in dementia diagnosis, and the outcome of early trials on immunotherapy for Alzheimer's disease.
- Revised and updated research on cognitive processes and driving in the elderly, and the relationship between intelligence and mortality risk.
- New research on the role of socioeconomic status as a mediator between intelligence and health.
- Revised and updated research on neurological changes with age.
- New methodological critique on memory intervention research.

18

Psychosocial Development in Late Adulthood

- Revised, updated, and expanded research on personality stability and change in old age and its relationship to health, age differences, and outcomes of coping styles, and the relationship between religion and health.
- New research on the predictive use of personality change in old age.
- New cross-cultural research added on well-being in late adulthood.
- New research added on socioemotional selectivity and well-being.
- Updated U.S. statistics on religion.
- New statistics added on global religious affiliation and belief.
- Updated research on models of successful aging.
- Revised and updated research on productivity and leisure activities in late life, life after retirement, aging-in place, and living alone in old age.
- Updated U.S. statistics on work and retirement, financial health after retirement, sources of income, poverty rates, institutionalization, aging-in-place, living alone, and living with relatives in old age.
- New Window on the World box on global aging stereotypes.
- New resource model of retirement added.
- New research added on the use of technological aids to delay entry into institutionalized care.
- Revised, updated, and expanded research on living with adult children and in institutions.
- New Research in Action box on elder abuse.
- Updated global and U.S. statistics on institutionalization in old age.
- New statistics added on the average cost of assisted living in the United States.
- Revised and updated research on personal relationship in late life and the link between social relationships and health.
- Updated U.S. statistics on multigenerational families, divorce and remarriage, and cohabitation late in life.
- Revised, updated, and expanded research on multigenerational families and cultural variations.
- Revised, updated, and expanded research on marital relationships late in life, widowhood, and cohabitation.

- New research added on marital conflict in older married couples.
- Updated global and U.S. statistics on single life in the elderly, and co-residence with adult children.
- New research added on dating in old age.
- New research added on “living apart together” relationships.
- Updated research on gay and lesbian relationships in late life.
- Revised and updated research on friendship and relationships with adult children later in life.
- New U.S. and international statistics added on the number of childless aging adults.
- New research added on well-being in older adults without children.

- New section added on euthanasia.
- New Research in Action box on physician-assisted suicide.
- Updated international data on euthanasia laws.
- Revised and updated research on U.S. and international attitudes about end-of-life options.
- New research added on religious beliefs and attitudes about end-of-life care.

19 Dealing with Death and Bereavement

- New Window on the World box on funeral customs across the world.
- Updated research on outcomes associated with hospice and palliative care, changes preceding death, and near-death experiences.
- New research added on neurological correlates of near-death experiences.
- Revised and updated research on patterns of grieving.
- Revised, updated, and expanded research on understanding of death and bereavement in children.
- New research added on the impact of religion on children’s understanding of death.
- New section added on terror management theory.
- Revised and updated research on surviving a spouse and mourning a miscarriage.
- Revised, updated, and expanded research on losing a parent or child in adulthood.
- Updated global and U.S. statistics on suicide.
- Updated research on risk factors, predictors, and method of suicide.
- Updated U.S. statistics on advance directives, assisted suicide, attitudes about assisted suicide, and utilization of Oregon’s Death with Dignity law.
- Revised and updated research on advance directives, palliative services, hospice care, and ethnic and cultural differences in beliefs about end-of-life care.

Instructor's Manual The instructor's manual provides a wide variety of tools and resources for presenting the course, including learning objectives and ideas for lectures and discussions.

Test Bank By increasing the rigor of the test bank development process, McGraw-Hill Education has raised the bar for student assessment. A coordinated team of subject-matter experts methodically vetted each question and set of possible answers for accuracy, clarity, effectiveness, and accessibility; each question has been annotated for level of difficulty, Bloom's taxonomy, APA learning outcomes, and corresponding coverage in the text. Organized by chapter, the questions are designed to test factual, conceptual, and applied understanding.

Test Builder New to this edition and available within Connect, Test Builder is a cloud-based tool that enables instructors to format tests that can be printed or administered within a Learning Management System. Test Builder offers a modern, streamlined interface for easy content configuration that matches course needs, without requiring a download.

Test Builder enables instructors to:

- Access all test bank content from a particular title
- Easily pinpoint the most relevant content through robust filtering options
- Manipulate the order of questions or scramble questions and / or answers
- Pin questions to a specific location within a test
- Determine your preferred treatment of algorithmic questions
- Choose the layout and spacing
- Add instructions and configure default settings

PowerPoint Presentations The PowerPoint presentations, available in both dynamic, lecture-ready and accessible, WCAG-compliant versions, highlight the key points of the chapter and include supporting visuals. All of the slides can be modified to meet individual needs.

EXPERIENCE

Human Development

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.

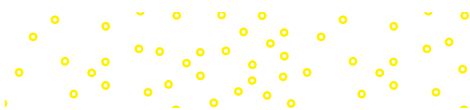


LightField Studios/Shutterstock

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.
- ▶ Almost 13 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.



The only lasting truth is change.
—Octavia Butler

Human Development: An Ever-Evolving Field

From the moment of conception, human beings begin a process of change that will continue until the last flicker of life ends. A single cell divides and divides again, over and over, in an orchestrated, organized fashion. Although each child born of this process is a unique individual, development is nonetheless patterned and orderly and follows a blueprint laid out by our evolutionary history. Eventually, a living, breathing, squalling infant is born and begins to be influenced by and to influence the surrounding world. Babies grow and become children, and then adolescents, and then adults. It is not until the heart ceases beating and the neurons of the brain stop firing that our stories end. These patterns of development are explored in this book.

The field of **human development** focuses on the scientific study of the systematic processes of change and stability in people. Developmental scientists look at ways in which people change from conception through maturity as well as at characteristics that remain fairly stable.

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 delaying middle and high school start times results in improved student outcomes on a wide variety of measures. When school start time is pushed back to 8:30 AM or later, students are more likely to report longer total sleep times, reduced daytime sleepiness, less difficulty staying awake in class, lower levels of depression, and greater participation in extracurricular activities. Additionally, their improved alertness has been associated with increased driving safety. These effects exist because later start times are more in sync with adolescent biological circadian rhythms, which prevent most teens from going to sleep early enough in the evening to get sufficient sleep (Watson et al., 2017; Minges & Redeker, 2016).

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.

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 children say their first word or how large their vocabulary is at a certain age, developmental scientists

human development

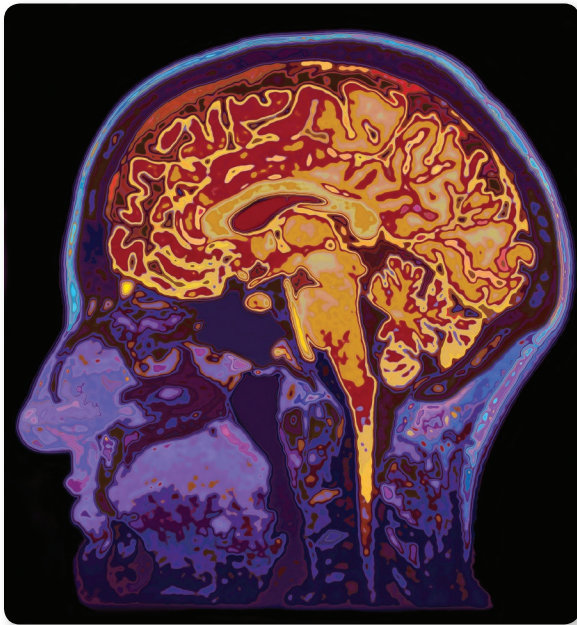
Scientific study of processes of change and stability throughout the human life span.



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

life-span development

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



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

SpeedKingz/Shutterstock

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?

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.

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**.

Although in this book we talk separately about physical, cognitive, and psychosocial development, these domains are intricately interconnected. But to understand their complexity, we need to establish boundaries somewhere. Thus, we separate these spheres of influence. Despite this, it is important to remember that each aspect of development affects the others. Child development is a complex and tangled web of multiple influences, and understanding these influences requires thinking carefully about their interactions. Just as a fly caught on one thread of a web sends reverberations across the entire structure, development in one area sends ripples though all other areas. 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. 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).

Ariel Skelley/Blend Images LLC

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).

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.

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.

TABLE 1 Typical Major Developments in Eight Periods of Human Development

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

TABLE 1 Typical Major Developments in Eight Periods of Human Development

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

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 typical 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 thirties, 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?

individual differences

Differences in characteristics, influences, or developmental outcomes.

heredity

Inborn traits or characteristics inherited from the biological parents.

environment

Totality of nonhereditary, or experiential, influences on development.

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.

HEREDITY, ENVIRONMENT, AND MATURATION

Influences on development can be described in two primary ways. Some influences are internal and driven by **heredity** and biological processes. Heredity can be conceptualized as the genetic roll of the dice. It consists of the inborn traits and characteristics provided by a child's biological parents. Other influences stem from the **environment** outside the body, starting at conception with the prenatal environment in the womb and continuing throughout life. The relative influence of nature (heredity and biological processes) and nurture (environmental influences) is fiercely debated, and theorists differ in the weight they assign to each.

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, it is also affected by parental stimulation, education, peer influence, and other variables. 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 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.

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.

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 was the normative family unit in the United States and other Western societies. In 1960, 73 percent of children lived in families with two married parents in their first marriage and 37 percent of households were composed of nuclear families. In 2014, only 69 percent of children and 16 percent of households could be described in the same fashion (Pew Research Center, 2015). Instead of a large, rural family in which parents and children work side by side on the family farm, we are now more likely to see smaller, urban families in which 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

maturation

Unfolding of a natural sequence of physical and behavioral changes.



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?

nuclear family

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



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

Ronnie Kaufman/Blend Images/Alamy Stock Photo