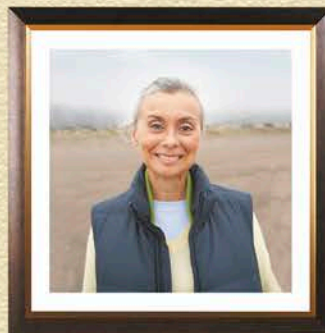
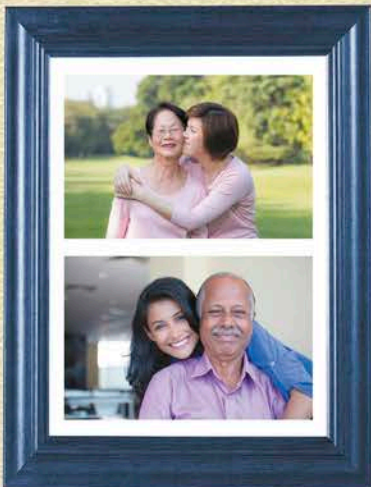
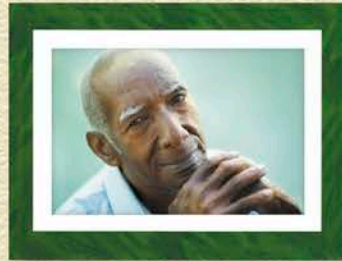


Eighth Edition

ADULT DEVELOPMENT *and* AGING

John C. Cavanaugh
Fredda Blanchard-Fields





EIGHTH EDITION

ADULT DEVELOPMENT AND AGING

JOHN C. CAVANAUGH

Consortium of Universities of the Washington Metropolitan Area

FREDDA BLANCHARD-FIELDS



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John C. Cavanaugh and Fredda Blanchard-Fields

Product Director: Marta Lee-Perriard

Product Team Manager: Star Burruto

Product Manager: Andrew Ginsberg

Content Developer: Nedah Rose

Product Assistant: Leah Jenson

Digital Content Specialist: Allison Marion

Content Project Manager: Ruth Sakata Corley

Production and Composition Service:
SPI Global

Intellectual Property Analyst: Deanna Ettinger

Intellectual Property Project Manager:
Reba Frederics

Illustrator: Lisa Torri

Art Director: Vernon Boes

Text and Cover Designer: Liz Harasymczuk

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In memory of Fredda Blanchard-Fields, friend and collaborator,
who dedicated her life to educating students.

To Chris

Brief Contents

- 1** Studying Adult Development and Aging 1
- 2** Neuroscience as a Basis for Adult Development and Aging 29
- 3** Physical Changes 56
- 4** Longevity, Health, and Functioning 90
- 5** Where People Live: Person–Environment Interactions 126
- 6** Attention and Memory 157
- 7** Intelligence, Reasoning, Creativity, and Wisdom 185
- 8** Social Cognition 215
- 9** Personality 243
- 10** Clinical Assessment, Mental Health, and Mental Disorders 270
- 11** Relationships 307
- 12** Work, Leisure, and Retirement 339
- 13** Dying and Bereavement 371
- 14** Healthy Aging 401

Contents

CHAPTER 1

Studying Adult Development and Aging 1

1.1 Perspectives on Adult Development and Aging 3

DISCOVERING DEVELOPMENT Myths and Stereotypes About Aging 3

- The Life-Span Perspective 4
- The Demographics of Aging 4

1.2 Issues in Studying Adult Development and Aging 7

- The Forces of Development 8
- Interrelations Among the Forces: Developmental Influences 9
- Culture and Ethnicity 9
- The Meaning of Age 10
- Core Issues in Development 11

REAL PEOPLE Pope Francis Sets Many New Examples 12

CURRENT CONTROVERSIES Does Personality in Young Adulthood Determine Personality in Old Age? 13

1.3 Research Methods 15

- Measurement in Adult Development and Aging Research 15
- General Designs for Research 16
- Designs for Studying Development 17
- Integrating Findings from Different Studies 21
- Conducting Research Ethically 21

HOW DO WE KNOW? Conflicts Between Cross-Sectional and Longitudinal Data 22

Social Policy Implications 24

Summary 25

Review Questions 27

Integrating Concepts in Development 27

Key Terms 27

CHAPTER 2

Neuroscience as a Basis for Adult Development and Aging 29

2.1 The Neuroscience Approach 31

- Neuroimaging Techniques 31
- Neuroscience Perspectives 32

DISCOVERING DEVELOPMENT What Do People Believe About Brain Fitness? 33

2.2 Neuroscience and Adult Development and Aging 33

- How Is the Brain Organized? 34
- What Age-Related Changes Occur in Neurons? 35
- What Age-Related Changes Occur in Neurotransmitters? 35
- What Age-Related Changes Occur in Brain Structures? 36
- What Do Structural Brain Changes Mean? The Theory of Mind 37

HOW DO WE KNOW? The Aging Emotional Brain 38

2.3 Making Sense of Neuroscience Research: Explaining Changes in Brain-Behavior Relations 42

- The Parieto-Frontal Integration Theory 43
- Can Older Adults Compensate for Changes in the Brain? 44
- Theories of Brain-Behavior Changes Across Adulthood 45

REAL PEOPLE Oliver Sacks, Brain Mapper 45

2.4 Plasticity and the Aging Brain 48

- What Is Brain Plasticity? 49
- Exercise and Brain Aging 49

CURRENT CONTROVERSIES Are Neural Stem Cells the Solution to Brain Aging? 50

Nutrition and Brain Aging 50

Social Policy Implications 51

Summary 52

Review Questions 53

Integrating Concepts in Development 54

Key Terms 54

CHAPTER 3

Physical Changes 56

3.1 Why Do We Age? Biological Theories of Aging 57

- Metabolic Theories 58

DISCOVERING DEVELOPMENT Why Do Most People Think We Age? 58

- Cellular Theories 58

v

Genetic Programming Theories	60
Implications of the Developmental Forces	60
3.2 Appearance and Mobility	61
Changes in Skin, Hair, and Voice	61
Changes in Body Build	62
Changes in Mobility	63
Psychological Implications	66
3.3 Sensory Systems	67
Vision	68
Hearing	69
HOW DO WE KNOW? Hearing and Quality of Life Among Community-Dwelling Older Adults	71
Somesthesia and Balance	72
Taste and Smell	73
3.4 Vital Functions	75
Cardiovascular System	75
REAL PEOPLE Donna Arnett's Recovery from Stroke	78
Respiratory System	79
3.5 The Reproductive System	80
Female Reproductive System	80
CURRENT CONTROVERSIES Menopausal Hormone Therapy	81
Male Reproductive System	82
Psychological Implications	82
3.6 The Autonomic Nervous System	83
Autonomic Nervous System	83
Psychological Implications	84
Social Policy Implications	85
Summary	86
Review Questions	88
Integrating Concepts in Development	88
Key Terms	89

CHAPTER 4

Longevity, Health, and Functioning 90

4.1 How Long Will We Live?	91
DISCOVERING DEVELOPMENT Take the Longevity Test	92
Average and Maximum Longevity	92
Genetic and Environmental Factors in Average Longevity	94
Ethnic Differences in Average Longevity	95
Gender Differences in Average Longevity	95
International Differences in Average Longevity	96

4.2 Health and Illness	97
Defining Health and Illness	97
Quality of Life	98
Changes in the Immune System	98
Chronic and Acute Diseases	100
The Role of Stress	101
HOW DO WE KNOW? Negative Life Events and Mastery	104
4.3 Common Chronic Conditions and Their Management	105
General Issues in Chronic Conditions	105
Common Chronic Conditions	106
REAL PEOPLE The "Angelina Jolie Effect"	109
CURRENT CONTROVERSIES The Prostate Cancer Dilemma	111
Managing Pain	112
4.4 Pharmacology and Medication Adherence	113
Patterns of Medication Use	113
Developmental Changes in How Medications Work	114
Medication Side Effects and Interactions	114
Adherence to Medication Regimens	115
4.5 Functional Health and Disability	116
A Model of Disability in Late Life	116
Determining Functional Health Status	119
What Causes Functional Limitations and Disability in Older Adults?	120
Social Policy Implications	121
Summary	121
Review Questions	123
Integrating Concepts In Development	124
Key Terms	124

CHAPTER 5

Where People Live: Person–Environment Interactions 126

5.1 Describing Person–Environment Interactions	128
Competence and Environmental Press	128
DISCOVERING DEVELOPMENT What's Your Adaptation Level?	130
Preventive and Corrective Proactivity Model	130
Stress and Coping Framework	132
Common Theoretical Themes and Everyday Competence	132

5.2 The Ecology of Aging: Community Options 133**REAL PEOPLE** Designing for a Reimagined Aging 134

- Aging in Place 135
- Deciding on the Best Option 136
- Home Modification 136
- Adult Day Care 138
- Congregate Housing 138
- Assisted Living 139

5.3 Living in Nursing Homes 140

- Long-Term Care in Nursing Homes 142

CURRENT CONTROVERSIES Financing Long-Term Care 142

- Who Is Likely to Live in Nursing Homes? 143
- Characteristics of Nursing Homes 143
- Special Care Units 144
- Can a Nursing Home Be a Home? 145
- Communicating with Residents 146

HOW DO WE KNOW? Identifying Different Types of Elderspeak in Singapore 147

- Decision-Making Capacity and Individual Choices 150

- New Directions for Nursing Homes 151

- Social Policy Implications 152

Summary 153

Review Questions 155

Integrating Concepts in Development 155

Key Terms 155

CHAPTER 6**Attention and Memory 157****6.1 Information Processing and Attention 159**

- Information-Processing Model 159
- Attention: The Basics 160
- Speed of Processing 160
- Processing Resources 160

DISCOVERING DEVELOPMENT How Good Are Your Notes? 161

- Automatic and Effortful Processing 162

6.2 Memory Processes 162

- Working Memory 162
- Implicit Versus Explicit Memory 163
- Long-Term Memory 164
- Age Differences in Encoding Versus Retrieval 165

6.3 Memory in Context 166

- Prospective Memory 167

HOW DO WE KNOW? Failing to Remember I Did What I Was Supposed to Do 168

- Source Memory and Processing of Misinformation 170
- Factors That Preserve Memory 171
- Training Memory Skills 172

REAL PEOPLE The Yoda of Memory Training 172**6.4 Self-Evaluations of Memory Abilities 175**

- Aspects of Memory Self-Evaluations 175
- Age Differences in Metamemory and Memory Monitoring 175

6.5 Clinical Issues and Memory Testing 177

- Normal Versus Abnormal Memory Aging 177
- Memory and Physical and Mental Health 178

CURRENT CONTROVERSIES Concussions and Athletes 178

- Memory and Nutrition 180
- Social Policy Implications 180

Summary 180

Review Questions 182

Integrating Concepts in Development 183

Key Terms 183

CHAPTER 7**Intelligence, Reasoning, Creativity, and Wisdom 185****7.1 Defining Intelligence 187**

- Intelligence in Everyday Life 187
- The Big Picture: A Life-Span View 187
- Research Approaches to Intelligence 189

DISCOVERING DEVELOPMENT How Do People Show Intelligence? 189**7.2 Developmental Trends in Psychometric Intelligence 190**

- The Measurement of Intelligence 190
- Primary and Secondary Mental Abilities 191
- Fluid and Crystallized Intelligence 192
- Neuroscience Research and Intelligence in Young and Middle Adulthood 193
- Moderators of Intellectual Change 194
- Modifying Primary Abilities 196

HOW DO WE KNOW? Think Fast, Feel Fine, Live Long 197**7.3 Qualitative Differences in Adults' Thinking 199**

- Piaget's Theory 199
- Going Beyond Formal Operations: Thinking in Adulthood 201

REAL PEOPLE Feeling the Bern 203

Integrating Emotion and Logic 203

7.4 Everyday Reasoning and Problem Solving 204

Decision Making 205

Problem Solving 205

Expertise 207

Creativity and Wisdom 208

CURRENT CONTROVERSIES Does Creativity Exist? 210

Social Policy Implications 211

Summary 211

Review Questions 213

Integrating Concepts in Development 213

Key Terms 214

CHAPTER 8**Social Cognition 215****8.1 Stereotypes and Aging 217**

Content of Stereotypes 217

Age Stereotypes and Perceived Competence 218

Activation of Stereotypes 218

Stereotype Threat 220

CURRENT CONTROVERSIES Are Stereotypes of Aging Associated with Lower Cognitive Performance? 220**8.2 Social Knowledge Structures and Beliefs 221**

Understanding Age Differences in Social Beliefs 222

Self-Perception and Social Beliefs 222

HOW DO WE KNOW? Age Differences in Self-Perception 223**8.3 Social Judgment Processes 224**

Emotional Intelligence 224

Impression Formation 224

REAL PEOPLE Impressions of Hillary Clinton and Donald Trump 225

Knowledge Accessibility and Social Judgments 227

A Processing Capacity Explanation for Age Differences in Social Judgments 228

Attributional Biases 229

8.4 Motivation and Social Processing Goals 231

Personal Goals 231

Emotion as a Processing Goal 232

Cognitive Style as a Processing Goal 233

8.5 Personal Control 234

Multidimensionality of Personal Control 234

DISCOVERING DEVELOPMENT How Much Control Do You Have Over Your Cognitive Functioning? 234

Control Strategies 235

Some Criticisms Regarding Primary Control 236

8.6 Social Situations and Social Competence 236

Collaborative Cognition 237

Social Context of Memory 238

Social Policy Implications 238

Summary 239

Review Questions 240

Integrating Concepts in Development 241

Key Terms 242

CHAPTER 9**Personality 243****9.1 Dispositional Traits Across Adulthood 245**

The Case for Stability: The Five-Factor Model 246

What Happens to Dispositional Traits Across Adulthood? 247

Conclusions About Dispositional Traits 249

CURRENT CONTROVERSIES Intraindividual Change and the Stability of Traits 249**9.2 Personal Concerns and Qualitative Stages in Adulthood 250**

What's Different About Personal Concerns? 251

Jung's Theory 251

Erikson's Stages of Psychosocial Development 252

REAL PEOPLE What Will History Say About You? 256

Theories Based on Life Transitions 256

Conclusions About Personal Concerns 257

9.3 Life Narratives, Identity, and the Self 258**DISCOVERING DEVELOPMENT** Who Do You Want to Be When You "Grow Up"? 258

McAdams's Life-Story Model 259

Whitbourne's Identity Theory 259

Six Foci Model of Adult Personality 260

Self-Concept and Well-Being 261

Possible Selves 262

HOW DO WE KNOW? Possible Selves and Pursuing Social Goals 263

Religiosity and Spiritual Support 264

Conclusions About Narratives, Identity, and the Self 265

Social Policy Implications 265

Summary 266

Review Questions 268

Integrating Concepts in Development 268

Key Terms 268

CHAPTER 10**Clinical Assessment, Mental Health, and Mental Disorders 270**

REAL PEOPLE Pat Summitt, Winningest College Basketball Coach of All Time 272

- 10.1 Mental Health and the Adult Life Course 273**
 Defining Mental Health and Psychopathology 273
 A Multidimensional Life-Span Approach to Psychopathology 274
 Ethnicity, Gender, Aging, and Mental Health 275

- 10.2 Developmental Issues in Assessment and Therapy 276**
 Areas of Multidimensional Assessment 276
 Factors Influencing Assessment 277
 Assessment Methods 278
 Developmental Issues in Therapy 278

- 10.3 The Big Three: Depression, Delirium, and Dementia 279**
 Depression 279
 Delirium 285
 Dementia 285

CURRENT CONTROVERSIES Diagnostic Criteria for Alzheimer's Disease 290

HOW DO WE KNOW? Training Persons with Dementia to Be Group Activity Leaders 294

- 10.4 Other Mental Disorders and Concerns 298**
 Anxiety Disorders 298
 Psychotic Disorders 299
 Alcohol Use Disorder 300

DISCOVERING DEVELOPMENT What Substance Abuse Treatment Options Are Available in Your Area? 302

Social Policy Implications 302

Summary 303

Review Questions 305

Integrating Concepts in Development 305

Key Terms 306

CHAPTER 11**Relationships 307**

- 11.1 Relationship Types and Issues 308**
 Friendships 308

REAL PEOPLE The Dornenburg Sisters 310
 Love Relationships 311

HOW DO WE KNOW? Patterns and Universals of Romantic Attachment Around the World 313
 Violence in Relationships 314

- 11.2 Lifestyles and Love Relationships 316**
 Singlehood 316
 Cohabitation 317
 LGBTQ Relationships 318
 Marriage 318
 Divorce 322
 Remarriage 324
 Widowhood 325

DISCOVERING DEVELOPMENT What Is It Like to Lose a Spouse/Partner? 326

- 11.3 Family Dynamics and the Life Course 326**
 The Parental Role 326
 Midlife Issues: Adult Children and Caring for Aging Parents 330

CURRENT CONTROVERSIES Paid Family Leave 330

Grandparenthood 332
 Social Policy Implications 334

Summary 335

Review Questions 337

Integrating Concepts in Development 337

Key Terms 337

CHAPTER 12**Work, Leisure, and Retirement 339**

- 12.1 Occupational Selection and Development 340**
 The Meaning of Work 340
 Occupational Choice Revisited 341
 Occupational Development 342
 Job Satisfaction 344

- 12.2 Gender, Ethnicity, and Discrimination Issues 346**
 Gender Differences in Occupational Selection 346
 Women and Occupational Development 347
 Ethnicity and Occupational Development 349
 Bias and Discrimination 349

CURRENT CONTROVERSIES Helping Women Lean In? 350

- 12.3 Occupational Transitions 351**
 Retraining Workers 352
 Occupational Insecurity 352
 Coping with Unemployment 353

DISCOVERING DEVELOPMENT What Unemployment Benefits Are Available in Your Area? 353

12.4 Work and Family 355

- The Dependent Care Dilemma 355
- Juggling Multiple Roles 356

12.5 Leisure Activities 359

- Types of Leisure Activities 359
- Developmental Changes in Leisure 360

HOW DO WE KNOW? Long-Term Effects of Leisure Activities 360

- Consequences of Leisure Activities 361

12.6 Retirement and Work in Late Life 362

- What Does Being Retired Mean? 362
- Why Do People Retire? 363
- Adjustment to Retirement 363
- Employment and Volunteering 364

REAL PEOPLE Retiring to the Peace Corps 365

- Social Policy Implications 366

Summary 367

Review Questions 369

Integrating Concepts in Development 369

Key Terms 370

CHAPTER 13

Dying and Bereavement 371

13.1 Definitions and Ethical Issues 373

- Sociocultural Definitions of Death 373
- Legal and Medical Definitions 374
- Ethical Issues 374

CURRENT CONTROVERSIES The Brittany Maynard Case 376

13.2 Thinking About Death: Personal Aspects 377

- A Life-Course Approach to Dying 378

DISCOVERING DEVELOPMENT A Self-Reflective Exercise on Death 378

REAL PEOPLE Randy Pausch's Last Lecture 378

- Dealing with One's Own Death 379
- Death Anxiety 380

13.3 End-of-Life Issues 382

- Creating a Final Scenario 382
- The Hospice Option 383
- Making Your End-of-Life Intentions Known 385

13.4 Surviving the Loss: The Grieving Process 386

- The Grief Process 387
- Typical Grief Reactions 388
- Coping with Grief 389

HOW DO WE KNOW? Grief Processing and Avoidance in the United States and China 390

- Ambiguous Loss 392
- Complicated or Prolonged Grief Disorder 393
- Adult Developmental Aspects of Grief 393
- Conclusion 395

- Social Policy Implications 396

Summary 397

Review Questions 398

Integrating Concepts in Development 399

Key Terms 399

CHAPTER 14

Healthy Aging 401

14.1 Demographic Trends and Social Policy 402

- Demographic Trends: 2030 403
- Social Security and Medicare 404

CURRENT CONTROVERSIES What to Do About Social Security and Medicare 407

14.2 Healthy Aging: Living Well in Later Life 408

- What Is Healthy Aging? 408

DISCOVERING DEVELOPMENT What Is Living Well? 408

- Health Promotion and Quality of Life 409
- Using Technology to Maintain and Enhance Competence 410
- Health Promotion and Disease Prevention 412
- Lifestyle Factors 414

14.3 Epilogue 418

Summary 419

Review Questions 419

Integrating Concepts in Development 420

Key Terms 420

References 421

Name Index 461

Glossary/Subject Index 468

Preface

People's experiences growing older in the 21st century differ dramatically from their parents' and grandparents' experience. The complex issues confronting individuals and societies are the reason a solid grounding in research and theory about adult development and aging is essential even for understanding news events. The healthcare debates, for example, bring many issues to the forefront, including Medicare, end-of-life issues, and longevity and the possibility of significant intergenerational policy issues. Other news stories about genetic breakthroughs, stem cell research, brain-imaging techniques, and the latest breakthroughs in treating dementia happen regularly. To understand why these issues are so critical, one must understand aging in a broader, rapidly changing context. That is why *Adult Development and Aging* is now in its eighth edition.

The next few decades of this century will witness a fundamental change in the face of the population—literally. Along with many countries in the industrialized world, the United States will experience an explosive growth in the older adult population due to the continued aging of the baby-boom generation. Additionally, the proportion of older adults who are African American, Latino, Asian American, and Native American will increase rapidly. To deal with these changes, new approaches need to be created through the combined efforts of people in many occupations—academics, gerontologists, social workers, healthcare professionals, financial experts, marketing professionals, teachers, factory workers, technologists, government workers, human service providers, and nutritionists, to mention just a few. Every reader of this book, regardless of his or her area of expertise, needs to understand older adults to master the art of living.

This eighth edition of *Adult Development and Aging* continues to provide in-depth coverage of the major issues in the psychology of adult development and aging. The eighth edition adds numerous topics

and provides expanded coverage of many of the ones discussed in earlier editions.

Chapter-by-Chapter Additions and Enhancements to *Adult Development and Aging*, Eighth Edition

Chapter 1

- Rewritten section on the demographics of aging
- New *Real People* feature highlighting Pope Francis

Chapter 2

- Addition of the disconnected brain hypothesis related to cognitive decline
- Fuller discussion of structural brain changes and their relation to behavioral change with age
- More specific information about brain structures and cognition
- Added concept of Theory of Mind
- New *Real People* feature highlighting Oliver Sacks
- Added discussion of the PASA model of brain function changes with age
- Update to the STAC theory of cognitive aging to STAC-r

Chapter 3

- New discussion of forms of age-related macular degeneration
- New *How Do We Know?* feature on hearing loss and quality of life
- New *Real People* feature highlighting Donna Arnett's recovery from stroke
- Added note that vaping may lead to respiratory disease
- Added mention of soy, yoga, and pharmacogenomics as approaches to addressing menopausal symptoms
- Added discussion of the Kronos Early Estrogen Prevention Study (KEEPS)

Chapter 4

- Additional information on genetics of health and genomic-based interventions throughout
- Longevity data on OECD countries
- Stronger emphasis on distinction between health-related and non-health-related aspects of quality of life
- Additional information about genetics and cancer, including *PALB2* as a genetic factor in breast cancer
- New *Real People* feature about Angelina Jolie and breast cancer risk
- Addition of the hierarchy of loss in the disability and frailty section

Chapter 5

- Revised *Discovering Development* feature on adaptation level
- More discussion regarding Accessory Dwelling Units
- New *Real People* feature highlighting Matthias Hollwich, an architect
- Expanded discussion about assisted living
- New discussion of the *MESSAGE Communication Strategies in Dementia* training program
- Expanded discussion about Eden Alternative, Green House Project, Pioneer Network

Chapter 6

- New *Real People* feature about Harry Lorayne
- Chapter reorganization to include memory training in Memory in Context section
- Considerably more information about neurological development, and neuroimaging and neuroscience research

Chapter 7

- New *How Do We Know?* feature on longitudinal data on the relations among intelligence, health, and survival
- New *Real People* feature on Bernie Sanders and the 2016 election
- New *Current Controversies* feature on whether creativity actually exists
- Discussion of the Openness-Fluid-Crystallized-Intelligence (OFCI) model
- Discussion added of terminal decline
- Revised *Social Policy* feature regarding misleading claims of cognitive training programs

Chapter 8

- Discussion of the serious negative effects of believing negative stereotypes about aging
- Revised section on stereotypes and competence

- New discussion of Implicit Association Test and imagined intergroup contact intervention strategy
- New *Real People* feature on Hillary Clinton and Donald Trump
- New discussion of emotional intelligence
- Discussion of the Strength and Vulnerability Integration (SAVI) model of emotional experience across adulthood

Chapter 9

- *Current Controversies* feature rewritten
- New discussion of the TESSERA model of personality in adulthood
- New *Real People* feature on each person's legacy
- New section on the Six Foci Model of Adult Personality
- New *How Do We Know?* feature on possible selves and social goal pursuit

Chapter 10

- New *Real People* feature on Pat Summitt (Tennessee women's basketball coach)
- Discussion of culturally based norms for mental health assessment
- Role of microglial cells in depression pointed out
- New section on dementia with Lewy bodies and its relation to Parkinson's disease
- New discussion on Alcohol Abuse Disorder from DSM-5

Chapter 11

- Discussion of Social Baseline Theory to explain how the brain activity reveals how people seek social relationships to mitigate risk
- New *Real People* feature on the Dornenburg sisters
- Revised discussion of financial exploitation and the role of financial institutions in preventing it
- Inclusion of millennial generation lifestyles, including their likely much lower rates of marriage and likelihood of being less well-off than their parents
- Rewritten discussion of LGBTQ adults
- New *Discovering Development* feature on the experience of losing a spouse/partner
- New *Current Controversies* feature on paid family leave

Chapter 12

- New chapter introduction focusing on the shift to the “gig economy” and its impact on the meaning of work
- Differentiation of mentoring and coaching
- Mention of burnout effects on the brain
- Reduced redundancy in parenting and work–family conflict sections

- New *How Do We Know?* feature on the long-term health effects of leisure activities
- New *Real People* feature on David and Champa Jarmul, Peace Corps volunteers

Chapter 13

- Table with most frequent causes of death by age
- Discussion of updated brain death criteria and implementation issues
- New *Current Controversies* featuring the Brittany Maynard case
- Discussion of death doulas
- New *Real People* feature with focus on Randy Pausch's last lecture
- Discussion of the Model of Adaptive Grieving Dynamics
- Discussion of disenfranchised grief
- Added discussion of ambiguous grief

Chapter 14

- New chapter title
- Chapter restructured to focus on social issues and the healthy aging framework
- Revised discussions of Social Security and Medicare based on recent political activity
- Discussion of salutogenesis added as an important framework for promoting wellness

Writing Style

Although *Adult Development and Aging, Eighth Edition* covers complex issues and difficult topics, we use clear, concise, and understandable language. All terms were examined to ensure their use is essential; otherwise, they were eliminated.

The text is aimed at upper-division undergraduate students. Although it will be helpful if students completed an introductory psychology or life-span human development course, the text does not assume this background.

Instructional Aids

The many pedagogical aids in previous editions have been retained and enhanced in the eighth edition.

- *Learning Aids in the Chapter Text.* Each chapter begins with a chapter outline. At the start of each new section, learning objectives are presented. These objectives are keyed to each primary subsection that follows, and they direct the students' attention to the

main points to be discussed. At the conclusion of each major section are concept checks, one for each primary subsection, that help students spot-check their learning. Key terms are defined in context; the term itself is printed in boldface, with the sentence containing the term's definition in italic.

- *End-of-Chapter Learning Aids.* At the end of each chapter are summaries, organized by major sections and primary subsection heads. This approach helps students match the chapter outline with the summary. Numerous review questions, also organized around major sections and primary subsections, are provided to assist students in identifying major points. Integrative questions are included as a way for students to link concepts across sections within and across chapters. Key terms with definitions are listed.
- *Boxes.* Four types of boxes are included. Those titled *How Do We Know?* draw attention to specific research studies that were discussed briefly in the main body of the text. Details about the study's design, participants, and outcomes are presented as a way for students to connect the information about these issues in Chapter 1 with specific research throughout the text. *Current Controversies* boxes raise controversial and provocative issues about topics discussed in the chapter. These boxes get students to think about the implications of research or policy issues and may be used effectively as points of departure for class discussions. *Discovering Development* boxes give students a way to see developmental principles and concepts in the "real world" as well as some suggestions on how to find others. *Real People* provides actual examples of aspects of aging and how people chose to handle them. These boxes provide a starting point for applied projects in either individual or group settings, and help students understand how development is shaped by the interaction of biological, psychological, sociocultural, and life-cycle forces.

MindTap

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Thanks to you all. Live long and prosper!

John C. Cavanaugh

About the Author



Courtesy of John C. Cavanaugh

John C. Cavanaugh is President and CEO of the Consortium of Universities of the Washington Metropolitan Area. Previously, he was Chancellor of the Pennsylvania State System of Higher Education and President of the University of West Florida. A researcher and teacher of adult development and aging for more than three decades, he has published more than 80 articles and chapters and authored, coauthored, or coedited 19 books on aging, information technology, and higher education policy. He is a Past President of Division 20 (Adult Development and Aging) of the American Psychological Association (APA) and is a Fellow of APA (Divisions 1, 2, 3, and 20) and the Gerontological Society of America, and a Charter Fellow of the Association for Psychological Science. He has held numerous leadership positions in these associations, including Chair of the Committee on Aging for APA. He has served on numerous state and national committees for aging-related and higher education organizations. John is a devoted fan of *Star Trek* and a serious traveler, photographer, backpacker, cook, and chocoholic. He is married to Dr. Christine K. Cavanaugh.



1

Studying Adult Development and Aging

CHAPTER OUTLINE

1.1 Perspectives on Adult Development and Aging

DISCOVERING DEVELOPMENT Myths and Stereotypes about Aging

The Life-Span Perspective

The Demographics of Aging

1.2 Issues in Studying Adult Development and Aging

The Forces of Development

Interrelations Among the Forces: Developmental Influences

Culture and Ethnicity

The Meaning of Age

REAL PEOPLE Pope Francis Sets Many New Examples

Core Issues in Development

CURRENT CONTROVERSIES Does Personality in Young Adulthood Determine
Personality in Old Age?

1.3 Research Methods

Measurement in Adult Development and Aging Research

General Designs for Research

Designs for Studying Development

HOW DO WE KNOW? Conflicts Between Cross-Sectional and Longitudinal Data

Integrating Findings from Different Studies

Conducting Research Ethically

Social Policy Implications

Summary

Review Questions

Integrating Concepts in Development

Key Terms

Although tired and a bit unsteady, Diana Nyad got out of the water and walked under her own power onto the beach at Key West, Florida. At age 64, she had just become the first person ever to swim the 110 miles from Havana, Cuba, to Key West, Florida, without the protection of a shark cage. Her feat, completed on September 2, 2013, after more than 50 hours of open water swimming, is just one more in a growing list of accomplishments by people at a point in life once thought to be a time of serious decline in abilities. No more.

It is definitely a time of changing perceptions of and opportunities for older adults. Consider that at the time of the Democratic and Republican national conventions in 2016, three of the final five major contenders in their respective parties were at least 68 years old (Hillary Clinton, Donald Trump, and Bernie Sanders). Jorge Mario Bergoglio was 76 when he became Pope Francis. Janet Yellen became Chair of the Federal Reserve at 67. The 14th Dalai Lama still inspired people in his 80s. John Lewis continued to work for social justice in his 70s. Ennio Morricone won an Oscar for best music score at age 87, topping the previous record held by Christopher Plummer, who won for best supporting actor at age 82. And Mick Jagger still wowed audiences when he passed age 70.

From athletes to politicians to people in everyday life, boundaries once thought fixed are being pushed every day.

Diana Nyad, Hillary Clinton, and Pope Francis are great examples of how older adults are being looked at differently today. They demonstrate that adults are capable of doing things thought unimaginable or inappropriate not very long ago. They also illustrate how the normal changes people experience as they age vary across individuals and why we need to rethink common stereotypes about age.

There is also an entire generation poised to redefine what growing older really means. The baby-boom generation, consisting of people born between 1946 and 1964, are on average the healthiest and most active generation to reach old age in history. They are not content with playing traditional roles assigned to older adults and are doing their best to change the way older adults are perceived and treated.

In this chapter, we examine a seemingly simple question: Who are older people? We will see that the answer is more complicated than you might think. We also consider the ways in which gerontologists study adults and how adults develop. ■



AFP/Getty Images

U.S. long-distance swimmer Diana Nyad is pictured before attempting to swim to Florida from Havana August 31, 2013.



MikeDotter/Shutterstock.com

Jorge Mario Bergoglio was elected as Pope Francis at age 76.



Allan Zilkowsky/Alamy Stock Photo

Mick Jagger shows that 70-somethings can still rock.

1.1 Perspectives on Adult Development and Aging

LEARNING OBJECTIVES

- What is gerontology? How does ageism relate to stereotypes of aging?
- What is the life-span perspective?
- What are the characteristics of the older adult population?
- How are they likely to change?

Roberto's great-grandmother Maria is 89 years old. Maria tells Roberto that when she was a young girl in El Paso, there were very few older women in either her family or the neighborhood. Roberto knows there are many older people, mostly women, in his own neighborhood, and wonders when and why this changed over her lifetime.

Before you read any more, take a minute and think about your own grandparents or great-grandparents. How would you and other people describe them? Do you want to be like them when you are their age?

We are all headed toward old age. How do you want to be thought of and treated when you get there? Do you look forward to becoming old, or are you afraid about what may lie ahead? Most of us want to enjoy a long life like Maria's but don't think much about growing old in our daily lives.

Reading this book will give you the basic facts about growing older. You will learn how to organize these facts by putting them into two contexts: the bio-psychosocial framework and the life-span approach. By the time you are finished, you should have a new, different way of thinking about aging.

You already enjoy a major advantage compared with Maria. She and other people her age did not have the opportunity as young students to learn much about what is typical and what is not typical about aging. Until the last few decades, very little information was available about old age, which people generally thought to be characterized only by decline. **Gerontology**, *the scientific study of aging from maturity through old age, has changed our understanding of aging and the aging process.* As you can imagine from reading about famous older adults at the beginning of the chapter, and as you will see throughout this book, aging reflects the individual differences you have come to expect across people as they change over time.

Still, many myths about old people persist. *These myths of aging lead to negative stereotypes of older people, which may result in **ageism**, a form of discrimination*

DISCOVERING DEVELOPMENT

Myths and Stereotypes About Aging

We are surrounded by misconceptions of older adults. We have all seen cartoons making jokes about older adults whose memories are poor or whose physical abilities have declined. Most damaging are the ideas portrayed in the media that older adults are incapable of leading productive lives and making a difference. For example, many greeting cards portray older people as having little memory, no teeth, and no desire for sex. As a way to discover something about development, try to find several examples of myths or stereotypes about aging. Look at those greeting cards, cartoons, advertisements, YouTube videos, articles in popular magazines, television shows, and music. Gather as many as you can, and then check them against the research on the topic discussed in this text. By the end of the course, see how many myths and stereotypes you can show to be wrong.

against older adults based on their age. Ageism has its foundations in myths and beliefs people take for granted, as well as in intergenerational relations (Nelson, 2016; North & Fiske, 2012, 2016). It may be as blatant as believing that all old people are senile and are incapable of making decisions about their lives. It may occur when people are impatient with older adults in a grocery store checkout line. Or it may be as subtle as dismissing an older person's physical complaints with the question "What do you expect for someone your age?" As you will learn by doing the activities in the Discovering Development feature, such stereotypes surround us.

This book rebuts these erroneous ideas, but it does not replace them with idealized views of adulthood and old age. Rather, it paints an accurate picture of what it means to grow old today, recognizing that development across adulthood brings growth and opportunities as well as loss and decline. To begin, we consider the life-span perspective, which helps place adult development and aging into the context of the whole human experience. Afterward, we consider the fundamental developmental forces, controversies, and models that form the foundation for studying adult development and aging. In particular, we examine the biological, psychological, sociocultural, and life-cycle forces, and

the nature–nurture and continuity–discontinuity controversies. We consider some basic definitions of age, and you will see that it can be viewed in many different ways. Finally, by examining various research methods we show how the information presented in this book was obtained.

The Life-Span Perspective

Imagine trying to understand, without knowing anything about his or her life, what your best friend is like. We cannot understand adults' experiences without appreciating what came before in childhood and adolescence. Placing adulthood in this broader context is what the life-span perspective is all about. *The life-span perspective divides human development into two phases: an early phase (childhood and adolescence) and a later phase (young adulthood, middle age, and old age).* The early phase is characterized by rapid age-related increases in people's size and abilities. During the later phase, changes in size are slow, but abilities continue to develop as people continue adapting to the environment (Baltes, Lindenberger, & Staudinger, 2006).

Viewed from the life-span perspective, adult development and aging are complex phenomena that cannot be understood within the scope of a single disciplinary approach. Understanding how adults change requires input from a wide variety of perspectives. Moreover, aging is a lifelong process, meaning that human development never stops.

One of the most important perspectives on life-span development is that of Paul Baltes (1987; Baltes et al., 2006), who identified four key features of the life-span perspective:

1. *Multidirectionality:* Development involves both growth and decline; as people grow in one area, they may lose in another and at different rates. For example, people's vocabulary ability tends to increase throughout life, but reaction time tends to slow down.
2. *Plasticity:* One's capacity is not predetermined or set in concrete. Many skills can be trained or improved with practice, even in late life. There are limits to the degree of potential improvement, however, as described in later chapters.
3. *Historical context:* Each of us develops within a particular set of circumstances determined by the historical time in which we are born and the culture in which we grow up. Maria's experiences, described in the vignette, were shaped by living in the 20th century in a Chicano neighborhood in southwest Texas.

4. *Multiple causation:* How people develop results from a wide variety of forces, which we consider later in this chapter. You will see that development is shaped by biological, psychological, sociocultural, and life-cycle forces.

The life-span perspective emphasizes that human development takes a lifetime to complete. It sets the stage for understanding the many influences we experience and points out that no one part of life is any more or less important than another.

Basing their theories on these principles, Baltes et al. (2006) argue that life-span development consists of the dynamic interactions among growth, maintenance, and loss regulation. In their view, three factors are critical:

1. As people age, they begin to focus on or select those abilities deemed essential for functioning.
2. People then optimize their behavior by focusing on this more limited set of abilities.
3. Finally, people learn to compensate for declines by designing workaround strategies.

Taken together, this Selective Optimization with Compensation (SOC) approach explains how people shift more and more resources to maintain function and deal with biologically related losses as we grow old, leaving fewer resources to be devoted to continued growth. As we see throughout this book, this shift in resources has profound implications for experiencing aging and for pointing out ways to age successfully.

The Demographics of Aging

There have never been as many older adults alive as there are now, so you see many more older people than your great-grandparents (or even your parents) did when they were your age. The proportion of older adults in the population of developed countries has increased tremendously, mainly due to better health care over the past century (e.g., the elimination or prevention of previously fatal acute diseases, especially during childhood, better treatment for chronic diseases) and to lowering women's mortality rate during childbirth.

*People who study population trends, called, demographers, use a graphic technique called a **population pyramid** to illustrate these changes.* Figure 1.1 shows average population pyramids for the most developed and least developed countries around the world. Let's consider developed countries first (they're down the left side of the figure). Notice the shape of the population pyramid in 1950, shown in the

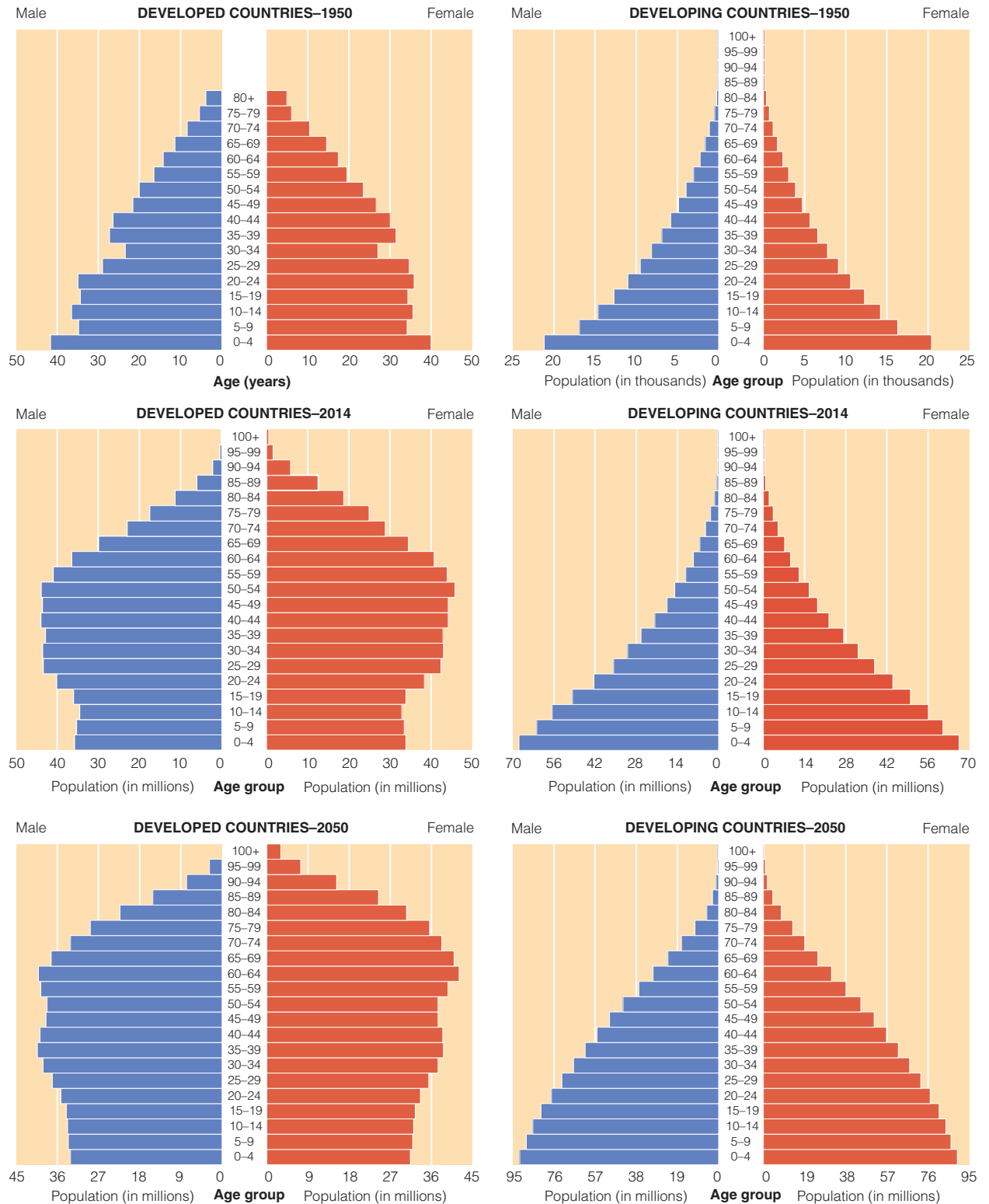


FIGURE 1.1 Population pyramids for developed and developing countries 1950–2050.

Source: From International programs: International database, by U.S. Census Bureau. Copyright © U.S. Census Bureau. Retrieved from www.census.gov/population/international/data/idb/ (1950 developed countries). Remaining data extracted from census data tables. See Kail and Cavanaugh, *Essentials of Human Development*, 2nd ed., p. 369.

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top panel of the figure. In the middle of the 20th century, there were fewer people over age 60 than under age 60; so the figure tapers toward the top. Compare this to projections for 2050; you can see that a dramatic change will occur in the number of people over 65.

These changes also occur in developing countries, on the right side of the figure. The figures for both 1950 and 2015 look more like pyramids when you look at both the male and female halves together because there are substantially fewer older adults than younger people. But by 2050, the number of older adults even in developing countries will have increased dramatically, substantially changing the shape of the figure.

Because the growth of the child population in the United States slowed in the 20th century and essentially stops by the middle of this century, the average age of Americans will continue to rise (Pew Research Center, 2015). By 2030, all of the baby boomers will have reached at least age 65, meaning that 1 in 5 Americans will be 65 or older (Census Bureau, 2015).

The sheer number of older Americans will place enormous pressure on pension systems (especially Social Security), health care (especially Medicare, Medicaid, and long-term care), and other human services. The costs will be borne by smaller numbers of taxpaying workers behind them, meaning that each worker will have a higher tax burden in the future in order to keep benefits at their current levels.

The growing strain on social service systems will intensify because the most rapidly growing segment of the U.S. population is the group of people over age 85, as you can see in the graphs. The number of such people will increase nearly 500% between 2000 and 2050, compared with about a 50% increase in the number of 20- to 29-year-olds during the same period. Individuals over age 85 generally need more assistance with the tasks they have to accomplish in daily living than do people under 85, straining the health care and social service systems.

The Diversity of Older Adults

The general population of the United States is changing rapidly. By 2044, it is expected that the U.S. will become majority-minority, up from 38% in 2014 (Census Bureau, 2015). Similarly, the number of older adults among minority groups is increasing faster than the number among European Americans (Pew Research Center, 2014). In terms of gender, as you can see in the graphs, older women outnumber older men in the



John Lund/Sam Diephuis/Blend Images/Getty Images

This Latina older woman represents the changing face of older adults in the United States.

United States. This is true also for each major ethnic and racial group.

Older adults in the future will be better educated too. By 2030, it is estimated that 85% will have a high school diploma and about 75% will have a college degree (Census Bureau, 2015). Better-educated people tend to live longer—mostly because they have higher incomes, which give them better access to good health care and a chance to follow healthier lifestyles (e.g., have access to and afford healthier food choices).

Internationally, the number of older adults is also growing rapidly (Pew Research Center, 2014). These rapid increases are due mostly to improved health care, lower rates of death in childbirth, and lower infant mortality. Nearly all countries are facing the need to adapt social policies to incorporate these changing demographics and resulting societal needs.

Economically powerful countries around the world, such as China, are trying to cope with increased numbers of older adults that strain the country's resources. By 2040, China expects to have more than 300 million people over age 60. So it is already addressing issues related to providing services and living arrangements for the increasing number of older adults (Ren & Treiman, 2014).

China and the United States are not alone in facing increased numbers of older adults. As you can see in Figure 1.2, the population of many countries will include substantially more older adults over the next few

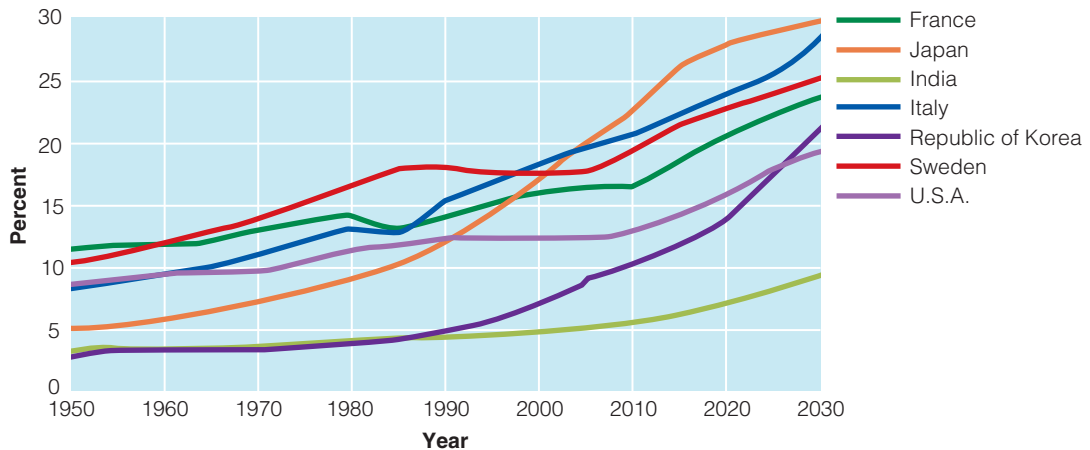


FIGURE 1.2 The proportion of older adults (65 years and older) is increasing in many countries and will continue to do so.

Source: United Nations, Statistics Bureau, Ministry of Public Management, Home Affairs, Post and Telecommunications, Ministry of Health, Labour, and Welfare. See Kail and Cavanaugh, *Essentials of Human Development*, 2nd ed., p. 370.

decades. All of these countries will need to deal with an increased demand for services to older adults and, in some cases, competing demands with children and younger and middle-aged adults for limited resources.

Adult Development in Action

If you were a staff member for your congressional representative, what would you advise with respect to economic and social policy given the demographic changes in the U.S. population?

1.2 Issues in Studying Adult Development and Aging

LEARNING OBJECTIVES

- What four main forces shape development?
- What are normative age-graded influences, normative history-graded influences, and nonnormative influences?
- How do culture and ethnicity influence aging?
- What is the meaning of age?
- What are the nature–nurture, stability–change, continuity–discontinuity, and the “universal versus context-specific development” controversies?

Levar Johnson smiled broadly as he held his newborn granddaughter for the first time. So many thoughts rushed into his mind. He could only imagine the kinds of things Devonna would experience growing up. He hoped that she would have a good neighborhood in

which to play and explore her world. He hoped that she inherited the family genes for good health. He wondered how Devonna’s life growing up as an African American in the United States would be different from his experiences.

Like many grandparents, Levar wonders what the future holds for his granddaughter. The questions he considers are interesting in their own right, but they are important for another reason: They get to the heart of general issues of human development that have intrigued philosophers and scientists for centuries. You have probably asked these or similar questions yourself. How do some people manage to remain thin, whereas other people seem to gain weight merely by looking at food? Why do some people remain very active and mentally well into later life? How does growing up in a Spanish-speaking culture affect one’s views of family caregiving? Answering these questions requires us to consider the various forces that shape us as we mature. Developmentalists place special emphasis on four forces: biological, psychological, sociocultural, and life cycle. These forces direct our development much as an artist’s hands direct the course of a painting or sculpture.

Following from the forces that shape adult development and aging are questions such as: What is the relative importance of genetics and environment on people’s behavior? Do people change gradually, or do they change more abruptly? Do all people change in the same way? These questions reflect controversies that historically underlie the study of human development (Newman & Newman, 2016): the nature–nurture controversy, the

change–stability controversy, the continuity–discontinuity controversy, and the “universal versus context-specific development” controversy.

Having a firm grasp on the forces and controversies of development is important because it provides a context for understanding why researchers and theorists believe certain things about aging or why some topics have been researched a great deal and others have been hardly studied at all. For example, someone who believes that a decline in intellectual ability is an innate and inevitable part of aging is unlikely to search for intervention techniques to raise performance. Similarly, someone who believes that personality characteristics change across adulthood would be likely to search for life transitions.

The Forces of Development

Hair color, remembering, personality, activity levels—Why do adults differ so much on these and other things? The answer lies in understanding the basic forces that shape us and how they interact. Developmentalists typically consider four interactive forces (shown in Figure 1.3):

1. **Biological forces** include all genetic and health-related factors that affect development. Examples of biological forces include menopause, facial wrinkling, and changes in the major organ systems.
2. **Psychological forces** include all internal perceptual, cognitive, emotional, and personality factors that affect development. Collectively, psychological forces provide the characteristics we notice about people that make them individuals.

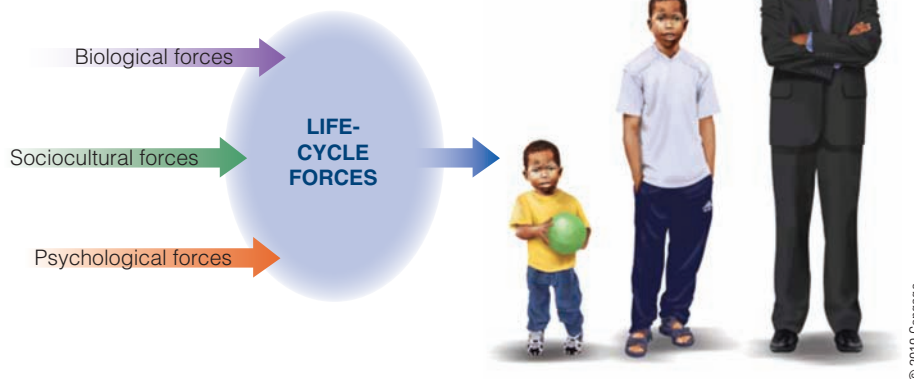
3. **Sociocultural forces** include interpersonal, societal, cultural, and ethnic factors that affect development. Sociocultural forces provide the overall contexts in which we develop.

4. **Life-cycle forces** reflect differences in how the same event or combination of biological, psychological, and sociocultural forces affects people at different points in their lives. Life-cycle forces provide the context for the developmental differences of interest in adult development and aging.

One useful way to organize the biological, psychological, and sociocultural forces on human development is with the **biopsychosocial framework**. Together with life-cycle forces, the biopsychosocial framework provides a complete overview of the shapers of human development. Each of us is a product of a unique combination of these forces. Even identical twins growing up in the same family eventually have their own unique friends, partners, occupations, and so on because they each experience the combination of forces differently.

To see why all these forces are important, imagine that we want to know how people feel about forgetting. We would need to consider biological factors, such as whether the forgetting was caused by an underlying disease. We would want to know about such psychological factors as what the person’s memory ability has been throughout his or her life and about his or her beliefs about what happens to memory with increasing age. We would need to know about sociocultural factors, such as the influence of social stereotypes about forgetting on actual memory performance. Finally, we would need to know about the age of the person when a forgetting experience occurs. Focusing on only one (or even

FIGURE 1.3 The biopsychosocial framework shows that human development results from interacting forces.



two or three) of the forces would provide an incomplete view of how the person feels. The biopsychosocial framework, along with life-cycle forces, will provide a way to understand all the developmental outcomes you will encounter in this text.

Interrelations Among the Forces: Developmental Influences

All the forces we have discussed combine to create people's developmental experiences. One way to consider these combinations is to consider the degree to which they are common or unique to people of specific ages. An important concept in this approach is cohort. A **cohort** is a group of people born at the same point in time or within a specific time span. So everyone born in 1995 would be the 1995 cohort; similarly, those born between 1946 and 1964 represent the baby-boom cohort. Based on this notion of cohort, Baltes (1987; Baltes et al., 2006) identified three sets of influences that interact to produce developmental change over the life span: normative age-graded influences, normative history-graded influences, and nonnormative influences.

Normative age-graded influences are experiences caused by biological, psychological, and sociocultural forces that occur to most people of a particular age. Some of these, such as puberty, menarche, and menopause, are biological. These normative biological events usually indicate a major change in a person's life; for example, menopause is an indicator that a woman can no longer bear children without medical intervention. Normative psychological events include focusing on certain concerns at different points in adulthood, such as a middle-aged person's concern with socializing the younger generation. Other normative age-graded influences involve sociocultural forces, such as the time when first marriage occurs and the age at which someone retires. Normative age-graded influences typically correspond to major time-marked events, which are often ritualized. For example, many younger adults formally celebrate turning 21 as the official transition to adulthood, getting married typically is surrounded with much celebration, and retirement often begins with a party celebrating the end of employment. These events provide the most convenient way to judge where we are on our social clock.

Normative history-graded influences are events that most people in a specific culture experience at the same time. These events may be biological (such as epidemics), psychological (such as particular stereotypes), or sociocultural (such as changing attitudes toward

sexuality). Normative history-graded influences often give a generation its unique identity, such as the baby-boom generation, generation X (people born roughly between 1965 and 1975), and the millennial generation (sometimes called the echo boomers or generation Y, born roughly between the early 1980s and 2000 or so). Normative history-graded influences can have a profound effect across all generations. For example, the attacks on the World Trade Center on September 11, 2001, fundamentally changed attitudes about safety and security that had been held for decades.

Nonnormative influences are random or rare events that may be important for a specific individual but are not experienced by most people. These may be favorable events, such as winning the lottery or an election, or unfavorable ones, such as an accident or layoff. The unpredictability of these events makes them unique. Such events can turn one's life upside down overnight.

Life-cycle forces are especially key in understanding the importance of normative age-graded, normative history-graded, and nonnormative influences. For example, history-graded influences may produce generational differences and conflict; parents' and grandparents' experiences as young adults in the 1960s and 1970s (before AIDS, smartphones, and global terrorism) may have little to do with the complex issues faced by today's young adults. In turn, these interactions have important implications for understanding differences that appear to be age related. That is, differences may be explained in terms of different life experiences (normative history-graded influences) rather than as an integral part of aging itself (normative age-graded influences). We will return to this issue when we discuss age, cohort, and time-of-measurement effects in research on adult development and aging.

Culture and Ethnicity

Culture and ethnicity jointly provide status, social settings, living conditions, and personal experiences for people of all ages, and they influence and are influenced by biological, psychological, and life-cycle developmental forces. Culture can be defined as shared basic value orientations, norms, beliefs, and customary habits and ways of living. Culture provides the basic worldview of a society in that it gives it the basic explanations about the meanings and goals of everyday life (Matsumoto & Juang, 2017). Culture is such a powerful influence because it connects to biological forces through family lineage, which is sometimes the way in which members of a particular culture are defined. Psychologically,