Reflects the most important theoretical foundations and research directions concerning aging and older adulthood

This authoritative volume provides the latest insights into, and theoretical interpretation of, our understanding of the human aging process. Newly updated and revised, this edition of the well-established and highly respected student textbook offers relatable scenarios that touch upon real-world issues faced by older adults and their families. The book explains how research studies attempt to answer questions of both theoretical and practical importance as they relate to aging and older adulthood, and it explains the hypotheses and findings of the studies in a manner that is comprehensible to readers of all levels of research experience.

Aging and Older Adulthood begins by describing the demographic characteristics of the older population. It follows with a chapter on theoretical models that apply to the study of adult development and aging, as well as approaches commonly taken to conduct research and ethical concerns involved in the study of this group. It then offers a series of chapters exploring biological aging, sensation perception and attention, memory, intellectual functioning, cognition and real-world problem-solving, personality and coping, social interaction and social ties, lifestyles and retirement, mental health and psychotherapy, and death and bereavement. The final chapter looks at aging in the future. Each chapter includes fully updated research findings, as well as new and expanded coverage of concepts and ideas in areas such as neuroscience, and diabetes.

- Explores our contemporary understanding of a broad range of topics related to older adulthood and the psychology of aging
- Offers thematic treatment of core issues including health, sensory perception, memory, intellect, social interactions, employment and retirement, and mental health
- Uses a dual lens of two models – the selective optimization with compensation model and the ecological model – to provide cohesiveness to the presentation of both theoretical and applied material
- Introduces each chapter with a relevant real-world scenario and refers back to it throughout the chapter
- Includes pedagogical feature boxes that reflect current understanding of contemporary issues in the field as well as key points and issues for further discussion

Aging and Older Adulthood, 4th Edition is an excellent text for upper division undergraduate and graduate courses focusing on the older adulthood and aging, the psychology of aging, gerontological studies, and lifespan development.

JOAN T. ERBER, PHD, is Professor Emeritus of Psychology at Florida International University, where she was a recipient of a State University System Professorial Excellence Program award. Her research on aging and memory and how stereotypes influence our perceptions of older adults has been published in journals such as *Psychology and Aging*, *Journal of Gerontology: Psychological Sciences,* and *Experimental Aging Research.* In addition to *Aging and Older Adulthood*, she co-authored *Great Myths of Aging (Wiley-Blackwell).* Professor Erber is a Fellow of the Gerontological Society of America (GSA), the Association for Psychological Science (APS), and the American Psychological Association (APA). She is past President of APA Division 20 (Adult Development and Aging).

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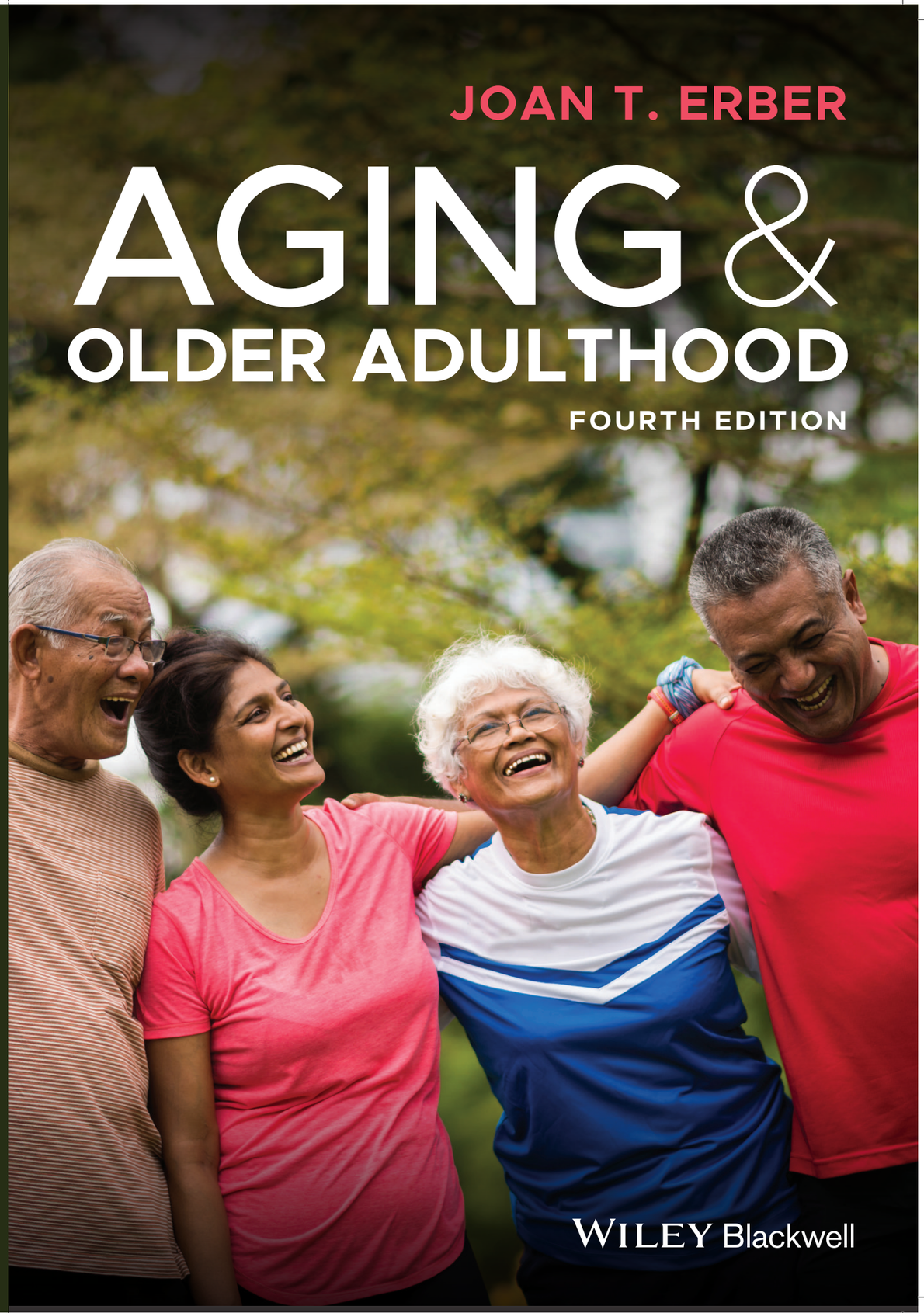

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Praise for Previous Editions

"The second edition of this textbook builds on the solid foundation of its predecessor and incorporates new research and developments in a user-friendly way. It is easy to tell that the author is passionate about teaching adult development and aging courses. In particular, I liked how Erber did not sacrifice historically important theories and studies in her book. Thus, I highly recommend this textbook as it represents an excellent introduction to a topic with increasing societal and global importance."

Manfred Diehl, Colorado State University

"Erber's *Aging and Older Adulthood* incorporates the latest research findings along with a compassionate, humanistic perspective. The new material on research applications to everyday problems of older adults, such as driving, shopping, and medical decision-making, will be of interest to those planning careers in aging as well as those planning on growing old."

Susan Kemper, University of Kansas

"This text has a number of features that will appeal to both instructors and students. For example, the author weaves a genuine attention to issues of diversity through each and every chapter. The author also includes realistic examples that demonstrate the significance of concepts to readers' own work with older adults, their own families, and even themselves, no matter their age. Most importantly, this text integrates three approaches that are essential to understanding aging: a biopsychosocial focus that spans key domains relevant to aging, a lifespan developmental perspective that views aging as a process rather than an event, and an empirical approach that recognizes the importance of theory and research in understanding and improving the experience of late life.

In sum, this text is a vibrantly written, comprehensive, and current introduction to aging and older adulthood, ideal for students from many disciplines who need to be prepared for their own aging and the aging of others around them."

Brian D. Carpenter, Washington University

"This text provides a dynamic historical narrative of aging research and theory, along with very insightful contemporary case studies that enrich the reader's understanding of the field of gerontology and individual processes of aging. It is recognized that as we age, health issues become more intertwined with personal realities, and Dr Erber provides a nuanced discussion of various changes in health and life concerns that is both informative and optimistic with regard to illness prevention and positive health outcomes… she provides a very systematic and well-structured presentation of the key areas and concerns of human aging."

Dr. Dean D. VonDras, University of Wisconsin-Green Bay

"Aging and Older Adulthood also includes a helpful glossary and bibliography. For anyone working with the older population this title contains a wealth of information and factors to take account of and I would recommend it as a resource."

Inclusion News, 1 January 2013

AGING & OLDER ADULTHOOD

FOURTH EDITION

Joan T. Erber

WILEY Blackwell

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For people of all ages who want to learn about aging and older adulthood.

Joan T. Erber is Professor Emeritus of Psychology at Florida International University, where she was a recipient of a State University System Professorial Excellence Program (PEP) Award. Dr. Erber has had extensive experience teaching undergraduate and graduate courses in adult development and aging. Her numerous research publications focus on aging and memory and how age stereotypes influence our perceptions and evaluations of older adults. Her research findings, some of which were funded by grants from the National Institute on Aging, are published in scientific journals such as *Psychology and Aging*, *Journal of Gerontology: Psychological Sciences, and Experimental Aging Research*. Dr. Erber is a Fellow of the Gerontological Society of America (GSA), the Association for Psychological Science (APS), and the American Psychological Association (APA). She is a past president of the APA Division 20 (Adult Development and Aging).

Brief Contents

Contents

Preface and Acknowledgments

Thanks in large part to advances in medical science and technology, we are living in a society that is rapidly aging, and many of us will live well into the older adult years. Members of the baby boom generation are now celebrating their 65th birthday in increasing numbers, so the ranks of the older adult age group are continuing to swell. It is no wonder that developmental researchers and practitioners are turning their attention to this important period of the adult life span.

My interest in aging and older adulthood began as an undergraduate psychology major at Washington University in St. Louis when I enrolled in a course on the psychology of aging taught by the late Dr. Robert Kleemeier. After earning my PhD degree in Psychology at Saint Louis University, I had the opportunity to return to Washington University as a postdoctoral fellow in the longstanding Aging and Development Program headed at that time by Dr. Jack Botwinick. This was the beginning of my career in the field of aging.

During my years at Washington University, including two as a postdoctoral fellow and additional time as a research associate, I conducted studies on aging and taught upper-division undergraduate courses in the psychology of aging and social gerontology. When I joined the psychology faculty of Florida International University, I continued teaching undergraduate courses, and I also taught graduate courses and seminars on adult development and aging. As I was teaching these courses, the thought of writing a book on aging and older adulthood was always in the back of my mind and gradually my ideas began to take shape. The book I envisioned would focus on up-to-date theories and research on issues central to aging and older adulthood. Research findings are the basis for what we know and will always be the guiding force for what still needs investigating. The book I envisioned would also include relatable scenarios that touch upon real-world issues faced by older adults.

My book explains how research studies attempt to answer questions of both theoretical and practical importance as they relate to aging and older adulthood. I explain the hypotheses and findings of the studies I included in a manner that is not oversimplified but at the same time

should be comprehensible to readers who may have limited experience in conducting research themselves. In some instances, I describe studies that report conflicting findings, and I offer suggestions to explain why the results of these studies may have differed. Such is the nature of science and my goal is to raise students' awareness of this. At the same time, I make every effort to tie together the research themes and findings so that they tell a coherent story.

What's New in This Edition?

Research on aging and older adulthood is an ongoing endeavor that is constantly leading to new ideas and fresh insights. The research I cite in this edition is substantially updated. New to this edition are:

- Updated content, with approximately 100 new references that reflect the latest research in the study of aging, such as neurological findings on brain structure and functioning as well as factors that influence cognitive functioning, health-care decision making, and social relationships.
- New Close-ups on Adulthood and Aging that appear at the beginning of each chapter. These close-ups are sketches, or vignettes, about the life of one or several older adults. Throughout the chapter, the reader is referred back to the older adult(s) that were featured in the opening close-up.
- New *Understanding Aging* boxes throughout the book that highlight phenomena of recent interest. Examples are Stereotype Embodiment Theory, Executive Function in brain processing, prevention of falls in older adults, the Stability-Plasticity-Flexibility perspective on neural development, age-related differences in interpreting ambiguous emotional situations, Age and Altruism, the Age-Stereotype paradox, the importance of Awareness of Aging for self-concept and personal identity, cohabitation among older couples, the role of stepgrandmothers, technology training for older job seekers, the Temporal Process Model of Retirement, Dealing with Time in Retirement, Symptoms of Caregiver Stress, Frontotemporal Dementia, the Death Café Movement, and the Broken Heart Syndrome. These boxes describe recent research findings that provide a deeper insight into the aging process.
- *Questions to Consider* at the end of each chapter stimulate readers to think about how the information in the chapter relates to them personally.
- An end-of-book glossary with definitions of key terms from all 13 chapters, including a number of new terms that appear for the first time in this edition.

Theoretical Models

An important goal in writing this book was to present two theoretical frameworks that would lend cohesion to the material covered. The Selective Optimization with Compensation Model and the Ecological Model are described in detail in the initial chapter. These two theoretical models complement each other and both are able to subsume research findings that indicate people experience changes as they age. At the same time, these models allow a great potential for successful aging. At the end of each chapter, I revisit these models and discuss how they can be applied to the topics covered. I do this to demonstrate that theoretical models are an effective mechanism for gaining a deeper understanding of what is known as well as what we still need to learn about aging and older adulthood.

Integrated Themes: Diversity, Environment, and Applications

As in previous editions, information related to diversity is integrated into the text. Each chapter includes examples of how findings may vary across racial, ethnic, and gender groups and for people who live in different countries. This book also provides integrated coverage on how environmental factors may influence the aging process. In addition, attention is given to the application of research findings to the everyday lives of older adults.

Layout of the Book

Aging and Older Adulthood, fourth edition, has 13 chapters, an ideal length for one-semester undergraduate courses or for basic reading in a graduate proseminar. Although it is not essential, I suggest that for maximum clarity, the chapters be covered in order.

Chapter 1 introduces the topic of aging and older adulthood and gives a brief history of how the study of aging got started and how age is defined. In addition, it includes updated information on the characteristics of the older adult population and the influences that are assumed to play a role in the aging process. At the end of this chapter, I introduce the two theoretical models that will be revisited in the final section of each subsequent chapter.

Chapter 2 lays the groundwork for approaches taken in the study of aging and older adulthood as well as the advantages and disadvantages of the research designs that can be used. It also touches upon topics related to measurement, sampling, and ethics. It introduces two recent trends in conducting research, the mega-analytic approach and the meta-analytic approach, both of which combine information across several studies. Overall, this chapter contains information that is important for understanding and

evaluating the research findings in substantive areas that are covered in the chapters that follow.

Chapter 3 includes topics of interest to both biologists and psychologists. How long can we expect to live, to what extent is biological aging under our control, and what can we do to ensure a high quality of life in older adulthood? What kinds of changes in body systems can we expect with normal aging and how can we compensate for any changes that occur? In this edition, figures on the leading causes of death are updated, as are those for life expectancy at birth and at ages 65 and 75. New to this edition is information on obesity in the older population and the importance of diet and exercise for reducing health risks in older adulthood. Also new is discussion of the influence positive self-stereotypes may have on older adults' physical and functional health. In addition, a discussion of spousal influence on promoting health in older couples is included. The concept of executive functioning in the brain is discussed. Also included is the recent revision of the theoretical STAC model, the scaffolding theory of aging and cognition-revised (STAC-r), which emphasizes factors such as education, physical fitness, and vascular health, all of which can promote neural enrichment over the life span. Neural enrichment, together with compensatory neural scaffolding, may explain how older adults maintain a normal level of cognitive functioning even in the face of age-related neural changes.

Chapter 4 focuses on theories and research on sensory, perceptual, and attentional processes. There is detailed information on age-related changes in vision and hearing that is basic to the understanding of age-related changes in memory, problem solving, and social processes, which are covered in subsequent chapters. There is updated information on older adults' use of technology and its possible influence on reaction time. Also discussed are recent statistics on older adults' use of hearing aids as well as information on new technology that allows streaming from cell phones to hearing aids. Also included is a list of suggestions for communicating with older adults who have hearing loss. New to this chapter is information on reaction time and visual attention gleaned from large numbers of individuals who visited a cognitive testing website. In addition, there is information on driving ability, and the topic of driving and texting is introduced.

Chapter 5 is devoted to memory, a subject of great interest not only to aging researchers but also to individuals who are aging. An entire book could be written about memory and aging, but this chapter touches upon theories about how memory works, the characteristics of older adults' memory, and what people believe to be true about memory and aging. This edition includes new information on how various areas of the brain are assumed to have different trajectories with regard to maturation and age-related decline. Accordingly, some types of memory are maintained to a later age than others. There is updated information on the efficacy of memory training strategies. Also included is a discussion regarding how societal values and belief structures about women, as well as about age, may ultimately influence level of cognition in older adult members of that society.

Chapter 6, on intellectual functioning, covers scientific views of intelligence and how level of intelligence is determined. It describes which intellectual abilities decline and which are maintained with increasing age. In addition to psychometric approaches, the concept of intelligence is applied to older adults' competence in various aspects of their everyday lives. New to this chapter is information on performance of intellectual tasks obtained from the findings of Internet-based tests taken by individuals of all ages. Also included is the discussion of plasticity versus flexibility with regard to intellectual ability. There is updated information on the effects of training on older adults' intellectual abilities as well as updated findings on the effects of activity engagement on cognitive functioning. Attention is given to the importance of rigorous scientific evaluation of the effects brain-training interventions, or "brain games," on older adults' cognitive functioning. Finally, an updated discussion of the meaning of financial capability and the possible reasons it can become compromised in older adulthood.

Chapter 7 has an applied focus and explores thinking and problem solving in the everyday world. For example, how do older adults use their cognitive capabilities in dealing with real-world situations such as solving social, moral, and interpersonal dilemmas or giving advice to others who are facing such dilemmas? How do older adults go about making decisions about their own health care or perhaps about more mundane consumer purchases? There is new material describing an abbreviated scale that taps three dimensions of wisdom (cognitive, reflective, and compassionate), as well as new research findings that support the likelihood that wisdom goes along with subjective feelings of well-being. Recent statistics are included on older adults' rate of accessing the Internet to obtain the information they need to make decisions. Also, there is new information on the effectiveness of gain-framed versus loss-framed messages on the importance of participating in health-related behaviors such as exercise. As well, there is updated information on the number of options young versus older adults wish to have when they make both consumer and health-related decisions. Also included is new information on how young versus older adults interpret emotionally ambiguous scenarios. Finally, there is a description of older adults' relationship with their middle-aged offspring in situations where the older adult seems in need of advice on making decisions in the face of limitations in physical and/or cognitive abilities.

Chapter 8 covers theories about personality and coping. It also discusses how lay people (nonscientists) view the personality traits of older adults. In addition, it covers topics related to self-concept and personal control, including strategies people use that can affect their quality of life in older adulthood. A new biographical sketch of a well-known figure in the field of gerontology includes her perceptions about her own aging and her general observations on personality in the later years. New material is introduced indicating that narrative identity begins to take shape early in life but ultimately plays an important role in forming a sense of self and purpose in life. Also included is new information on age stereotypes. For example,

counter to the idea that older adults are self-centered and greedy, new research in the context of problem solving indicates that older adults often reason and behave in an altruistic manner. A recent suggestion is that a two-prong approach is needed to promote conditions that will increase the degree to which age stereotypes are positive and attenuate the degree to which they are negative. Newly included is the construct of Awareness of Aging, whereby calendar age plays a less important role than self-concept and personal identity when it comes to older adults' motivation to participate in activities that promote healthy aging.

Chapter 9 examines social interaction and social ties in older adulthood. It describes prominent theories and discusses specific relationships (marital, intergenerational, grandparenthood, siblings, and friendship). New to this edition is research on the strengths and vulnerabilities of couple relationships in the later stages of life as well as updated information on same-sex couples, custodial grandfamilies, and the role of stepgrandmothers. There is updated information on nursing home residents' rights and on elder mistreatment and neglect. Also featured is the recent interest in financial exploitation and efforts to measure older adults' capacity for financial decision making.

Chapter 10 highlights aspects of life planning that hold great significance for older adults: employment, retirement, and living arrangements. What is typical for the work life and exit from the workforce for today's older adults and what changes can we expect in the future? Also, what options do older adults have for living environments, and what are the advantages and disadvantages of each? There is new information on older workers' participation in the labor force in the United States and other countries, as well as updated information on stereotypes that prevent older adults from being employed. Also included is recent information on the number of complaints that have been registered regarding age discrimination in employment. There is expanded discussion on Social Security, including how delayed retirement credit has blurred the concept of full retirement age. Also included is the Temporal Process Model, which is a new way of delineating the transition from work to retirement, as well as a discussion of how people deal with time in retirement. There is new information on older adults' reasoning when it comes to making changes in living arrangements or aging in place. There is updated information on the extent to which older adults are making plans or actually reducing the possessions in their material convoy.

Chapter 11 discusses mental health services for older adults, the types of psychopathology that occur most frequently in the older adult population, and therapies that are most effective in treating problems that older adults experience. New to this chapter is a list of symptoms of caregiver stress. The disorders included in the chapter, which are those of greatest concern for the older age group, are categorized according to the latest diagnostic and statistical manual, DSM-5. There is expanded coverage of insomnia and sleep disorders and of substance-related and addictive disorders (including

opioid dependence as well as alcohol). There is new information on screening for cognitive impairment, including a recent test that may be sensitive to milder levels of cognitive impairment. In addition to including the more common forms of dementia, the chapter highlights a case study of frontotemporal dementia (FTD). Finally, there is an updated set of guidelines on differentiating signs of dementia from typical age-related forgetting.

Chapter 12 covers topics related to death, dying, and loss, which are critical episodes within the experience of living, and which may be quite different for older adults in the future. This chapter includes updated statistics on the death rate per 100,000 in various age groups in the United States. It also discusses the meaning of the durable power of attorney (POA), which can be used for health-care decisions or for financial decisions. New in this chapter is information on the Death Café Movement, a phenomenon that originated in Switzerland but has now reached the United Kingdom and other countries, including the United States. This chapter includes updated information on the status of physician assisted suicide (PAS), or physician aid in dying (PAD), in the United States. Finally, there is a discussion of a phenomenon called the broken heart syndrome.

Chapter 13 is a final brief but updated discussion that speculates on aging and older adulthood in the not-too-distant future. This chapter is intended to stimulate young adults to think about what the older years may be like when they enter that stage of life. It includes the topic of the possible need to work in the later years as well as the availability of health care. It also discusses the likelihood of greater gender crossover, with women entering the workforce earlier and having career trajectories with fewer interruptions and with men playing a greater role in caregiving. The sandwich generation may be older in the future, and adult grandchildren may play a more important role in family caregiving for the older generation. The rate of technology use is increasing among the older population, and there is discussion of the increasingly important role technology will play in helping older adults to accomplish everyday tasks and keep in touch with family and friends at a distance. This chapter includes an updated discussion of third-agers' motivations to consider or actually make changes in their living arrangements that will serve their needs in the fourth age. The creation of age-friendly communities is discussed, as well as the recognition of Green House movement as a path to high-quality living environments for older adults.

Student Learning Aids

Each chapter opens with a vignette describing a real-world scenario about one or more older adults. Throughout the chapter, the reader is referred back to this vignette to demonstrate its connection to specific facts or theories. In addition, there are *Questions to Consider* at the end of the chapter that encourage readers to think about the meaning of the material. At the

end of each chapter is a list of *Key Points* for review. *Key Terms* are highlighted in green and also listed at the end of each chapter. All key terms appear in the glossary at the end of the book.

Instructor Materials

Aging and Older Adulthood, fourth edition, comes with an Instructor Manual written by the author, which is available at the book's website: **www.wiley.com/go/erber4e**. There is also a test bank with questions listed in the order in which the information occurs in the chapter. The test bank is followed by a set of short answer questions, with suggested responses. In addition to an Instructor Manual, the fourth edition comes with a set of PowerPoints for each chapter. These can be used as a visual aid by instructors who are teaching the course.

Acknowledgments

I wish to acknowledge those who played a role in my long career in the field of aging and the integration of my knowledge and experience in the form of this book. My initial undergraduate course with the now late Dr. Kleemeier at Washington University whetted my interest in this field of study. Subsequently, I was privileged to conduct research and teach in the Aging and Development Program of Washington University in St. Louis with Dr. Martha Storandt and the late Dr. Jack Botwinick. My years at Washington University were highly influential in my thinking and motivation for writing this book. Later on, the suggestions and encouragement I received from my former Saint Louis University PhD adviser, the now late Dr. Donald H. Kausler, were invaluable. Writing a textbook is a major undertaking, and his early encouragement played an important role in my bringing the project to fruition. Also, I acknowledge my students, who provided me with their views of the aging process and for whom I hope this book will open the door to continued interest and pursuit of careers in the field.

I wish to express my gratitude to the following individuals, whose constructive criticism and excellent feedback contributed to the quality of the fourth edition: Rebecca MacAulay and William J. Hoyer.

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1 Introduction to Aging and Older Adulthood

Chapter Overview

Aging and Older Adulthood, Fourth Edition. Joan T. Erber.

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Close-ups on Adulthood and Aging

At age 65, Mark feels like he has just as much energy as he did when he was in his 30s or 40s. At his last routine medical check-up, his doctor said that his blood pressure was close to that of the average 40-year-old and he was in excellent physical shape for someone his age. Mark has been a stockbroker for more than 35 years and is planning to retire from his firm in the coming year. But rather than relaxing on the golf course with his cronies, who are also planning to retire, he is eager to do something he never had time for during his high-pressure career: Teach elementary school-age children about money management. He has already spoken with administrators at several local public and private schools, and it looks as though some of them are interested in his plan to give talks and financial exercises to the children. He plans to introduce concepts about money, demonstrating how elementary arithmetic has practical applications. As a beginning teacher, Mark wonders if the children will think he is too "old" with his wispy white hair, but he feels certain that he will be able to capture their interest with the financial "games" he will devise.

The Study of Aging and Older Adulthood

What is aging and when does older adulthood begin? Later, we will look at the ways of defining age and determining when older adulthood starts. However, from the beginning of time, people have wondered about aging, and there have been numerous myths about how to slow down the aging process and prolong life (Birren, 1996; Birren & Schroots, 2001). One such myth involved speculation about the miraculous healing powers of various substances in certain parts of the world. The Spanish explorer Ponce de Leon (1460–1521) discovered Florida while searching for a fountain of youth that supposedly would rejuvenate anyone who drank or bathed in its waters. People believed that waters or other magical substances would not only restore youth but perhaps guarantee immortality as well. Birren (1996) contends that the modern equivalent of the search for rejuvenation is evident in the pilgrimages people make to health spas and their willingness to follow dietary regimens touted as having special potency for insuring long and healthy lives. Being able to combat aging and extend life seems to have universal appeal, and many entrepreneurs have amassed great wealth by selling antiaging products of questionable value to naive consumers (Olshansky, Hayflick, & Carnes, 2002).

History of the Scientific Study of Aging

Although interest in aging goes back centuries, the scientific study of aging and older adulthood is more recent. Several well-known researchers (Birren, 1996; Birren & Schroots, 2001; Schroots, 1996) portray how the scientific study of aging got started, and in the following paragraphs are some of the highlights they recount.

In 1835, Belgian mathematician and astronomer Adolphe Quetelet published a book describing the physical and behavioral characteristics of people at various stages of life. In 1884, Francis Galton, an Englishman trained in medicine and mathematics, sponsored a health exhibition in London, where he measured the physical and mental functions of more than 9,000 people ranging from 5 to 80 years of age. Subsequently, Galton's data were analyzed by several scientists. In 1922, G. S. Hall published a book entitled *Senescence: The Second Half of Life*, which summarized what was known about aging in fields such as physiology, medicine, anatomy, and philosophy. This book touched upon psychology as well.

In the latter part of the 19th century and early part of the 20th century, developmental psychologists focused mainly on children, perhaps because of the practical necessities of training teachers and providing child-rearing advice to parents (Birren & Schroots, 2001). However, in 1933, Charlotte Buhler published a book on biological and psychological processes throughout the entire course of human development. Written in German, Buhler's book is considered by many to be the foundation of life-span developmental psychology.

The year 1927 saw the establishment of a scientific laboratory designed to study the psychology of aging systematically (Birren, 1996; Birren & Schroots, 2001; Schroots, 1996). This laboratory, based in the psychology department of Stanford University, was headed by Walter R. Miles, who initiated the Stanford Later Maturity Study. According to Birren's (1996) account, the main reason for establishing this laboratory was that men in California were having difficulty finding work because they were considered too old (Chapter 10 discusses the older worker). For more than 5 years, Miles conducted research on age and psychomotor functioning.

In 1939, E.V. Cowdry, a cytologist at Washington University in St. Louis, edited a classic volume entitled *Problems of Aging*, which went beyond the biomedical aspects of aging to include social, psychological, and psychiatric information. In 1941, the United States Public Health Service organized a conference on mental health and aging. That same year, the Surgeon General of the United States Public Health Service recruited Dr. Nathan W. Shock to head the newly established Section on Aging within the National Institutes of Health (NIH), which is an agency of the U.S. government.

In sum, by the late 1930s and early 1940s, the scientific study of aging was beginning to take shape in the United States, although research efforts were temporarily halted when the United Stated entered World War II. But when the war ended, interest in aging research was revived, and several professional societies for the study of aging were established. In 1945, the Gerontological Society (subsequently renamed the Gerontological Society of America) was founded. The Gerontological Society and the newly established American Geriatric Society began publishing scientific journals on aging. The International Association of Gerontology, founded at about the same time, began to organize national and international conferences on the scientific study of aging.

In 1945, a small group of psychologists petitioned the American Psychological Association (APA) to approve a new division devoted to the study of development in the later years. Dr. Sidney L. Pressey of Ohio State University argued that a division on adulthood and later maturity would "be a natural complement to the present division on childhood and adolescence" and would "recognize that human development and change continue throughout the adult years and old age" (Pressey, 1945, as quoted by Birren & Stine-Morrow, 1999). The first reference to this new APA division (Division 20) appeared in the minutes of an initial organizational meeting held during the 1946 APA convention. Dr. Pressey was the first president of Division 20, initially named "The Division on Maturity and Old Age." At various times over the years, Division 20 has been called "The Division on Maturity and Old Age," "The Division of Psychology of Adulthood and Old Age," and "The Division of Psychology of Adulthood and Later Maturity." In 1973, Division 20 was officially designated in the bylaws as the "Division of Adulthood and Aging," which remains its title to this day. Today, Division 20 has many dedicated members who play an influential role in the APA.

The NIH (mentioned earlier) is a federal agency that conducts in-house (intramural) research and also funds extramural research that is carried out at various colleges and universities. The NIH is composed of a number of institutes, and in 1974, the National Institute on Aging (NIA) was established with the now late Dr. Robert Butler as its first director. As with the other institutes, the NIA oversees its own intramural research program and also funds research on aging and older adulthood conducted by scientists throughout the nation.

As the quantity of aging research has grown over the past 35 years, so has its quality. Today's researchers are increasingly aware of the complexities of studying aging. Methods for studying aging and older adulthood are covered in Chapter 2.

Geriatrics and Gerontology

Geriatrics and **gerontology** both refer to fields of study related to aging and older adulthood. Geriatrics is the branch of medicine specializing in the medical care and treatment of the diseases and health problems of older adults. Gerontology is the study of the biological, behavioral, and social phenomena from the point of maturity to old age.

Geriatrics and gerontology each have their own definitions, but sometimes it is difficult to make a clear distinction between research studies that fall into one category or the other. The term *geriatrics* is loosely applied to the study of the disease-related aspects of aging, while *gerontology* refers to the study of healthy older adults. Studies of older adults who have been diagnosed with a disease or live in nursing homes usually fall into the category of geriatric research, while studies of healthy community-living older adults fall into the category of gerontology research. However, as described in Chapter 3, many older adults, even those who live independently in the community, are not completely disease free. Also, not all research conducted in institutional settings is geriatric. For example, studies on social processes among nursing home residents could fall into the category of gerontology.

Why Was the Study of Aging Neglected?

Why did the theories and scientific study of the psychology of aging and older adulthood lag behind those of child psychology? One likely reason was the common belief that development takes place primarily during childhood and adolescence. People assumed that by the time adulthood is reached, personality is formed and no further developmental change occurs.

Until relatively recently, a *two stages of life* viewpoint was prevalent in developmental psychology (Schroots, 1996). According to this perspective, both physical and psychological functions develop up to the point of maturity, after which there is a transition to aging that is characterized by a decline in functioning. From this perspective, there was little reason to study aging and older adulthood because development reaches a peak in

young adulthood, only to be followed by a gradual and predictable downhill progression.

More recently, the assumption of uniform decline in functioning beyond young adulthood has been called into question. The view that universal decrement characterizes all functions as age increases is considered overly simplistic by contemporary researchers. Recognition that development is a complex process even at the older end of the age continuum has spurred greater interest in the study of aging and older adulthood. The life-span developmental perspective, which Chapter 2 describes in greater detail, postulates that development is an ongoing process in which the organism and the environment influence one another throughout life.

Another reason for the belated interest in the scientific study of aging and older adulthood is that, in earlier times, both the number and proportion of older adults were relatively small. Historically, old age was not unknown; even in early societies, some individuals lived into advanced old age. However, the number of such individuals was small and made up a tiny segment of the population. The phenomenal increase in the number of older adults during the 20th and now in the 21st centuries in developed countries such as the United States is due to improvements in sanitation and nutrition, as well as to astounding medical advances. Chapter 3 discusses factors contributing to the expanding older adult population.

Reasons for Studying Aging and Older Adulthood

Interest in the study of aging and older adulthood has arisen from concerns of a scientific nature, but it also stems from those of a personal and/or practical nature (Woodruff-Pak, 1988).

Scientific reasons

Until recently, our knowledge about adult development has been based mainly on tests, observations, and interviews with young adults. From a scientific point of view, it is important to determine whether the findings of studies on these young adult samples apply to older adults. If the findings obtained with young adults do not generalize to older adults, then their scientific value may be limited. From a developmental standpoint, however, different findings for young versus older adults can have significant theoretical implications for the scientific understanding of basic developmental processes. For example, if young adults have better memory for recent events and older adults recall events that happened long ago better, it is possible that the two age groups differ in how they think.

Personal reasons

From a personal standpoint, knowledge about aging and older adulthood can give us insight into the changes that we are experiencing or can expect to experience. Such insight can be helpful when we plan specific events

such as our own retirement or make decisions about how and where we want to live in our older adult years.

Interest in aging and older adulthood may also stem from our concern about others. Information on aging and older adulthood is useful when we cope with dilemmas involving older friends and family members. Perhaps you have noticed an older friend or relative seems to have difficulty hearing or understanding conversations. On the basis of information about age-related changes in hearing (see Chapter 4), what might be done to improve communication? Perhaps an older relative or friend is becoming forgetful. Is this a cause for concern? Chapter 5 covers age-related changes in memory, and Chapter 11 covers the cognitive symptoms of dementia that may be relevant to this concern. Perhaps an older friend or relative seems less outgoing than he or she was at an earlier time. Is this a cause for concern? Chapters 8–10 include information on personality, social processes, and lifestyle that is relevant to such concerns.

Practical reasons

Information on aging and older adulthood is valuable from a practical standpoint because older adults are a rapidly growing segment of the population. Health service workers can anticipate increased contact with older adults. Physicians, nurses, psychologists, social workers, physical therapists, occupational therapists, speech therapists, paramedics, and medical support staff are likely to find much of their time spent serving older adults. Educators will have more older adult students in their college and university classes, so providing optimal conditions for older adult learning will be a greater concern in planning university communities. Indeed, several colleges and universities have built housing specifically designed for older residents, who can live on campus and partake in classes as well as other aspects of college life. Those who work in business settings will also benefit from knowledge about the aging process because employees will probably remain in the paid labor force until later in life (see Chapter 10 for further discussion of work and retirement), and managers would do well to understand the abilities and needs of older workers, or for that matter of middle-aged workers who are caregivers for older relatives. Those who work in housing management, real estate, and banking will have older adult clients. Furthermore, older adults will become ever more important as consumers of manufactured products, so more items will be designed for the older adult market. Those employed in architectural planning will profit from knowledge about aging when they design living environments for older adults.

Up to this point, we referred to *aging* and *older adulthood* without being specific about the meaning of these terms. First, we will look at several ways of defining age. Then we will turn to the question of when older adulthood actually begins and what we can expect when it does.

Defining Age and Older Adulthood

Aging begins at birth and continues throughout life. However, in this book, the emphasis is on aging that takes place from the point of maturity (once adulthood is attained) and continues into the later years. Our main focus will be on older adulthood. However, in many instances, we obtain information about older adults by comparing them with individuals from young or middle-aged adult groups. Another way to study older adults is to follow the same individuals over time, observing how their patterns of behavior change as the years go by. Chapter 2 describes the advantages and disadvantages of each approach. Meanwhile, let's turn our attention to how age is defined.

Definitions of Age

Most of us think about age in terms of the number of birthdays we have celebrated.

Chronological age

Chronological age is measured in units of time (months or years) that have elapsed since birth. Mark, who was described at the beginning of the chapter, is 65 years old. Although merely an index of time, chronological age is the most common measure of age, and we will return to it later. However, age can also be defined biologically, functionally, psychologically, and socially. Chronological age does not always accurately predict where a particular individual falls along each of these dimensions.

Photo Image 1.1 *Although he says that he does not use a smartphone, philanthropist Warren Buffett, "Oracle of Omaha" born in 1930, is considered one of the world's most active (and successful) investors and would be considered functionally younger than most of his chronological age peers. Credit: Kent Sievers/Shutterstock.*

Biological age

Biological age has to do with where people stand relative to the number of years that they will live (i.e., their longevity). One individual might live to the chronological age of 70, in which case he or she might be considered biologically old at the age of 65. Another might live to the age of 90, so he or she would probably not be considered biologically old at the age of 65 because another 25 years of life remain. Because we cannot usually predict the exact length of a particular individual's life with great accuracy, this way of conceptualizing biological age is speculative.

Another way to define biological age is in terms of the body's organ systems and physical appearance. With regard to these measures, how does one individual compare with others in the same chronological age group (i.e., age peers)? Even within the same individual, different aspects of biological functioning and physical appearance must be evaluated separately because they can vary. For example, Mark is biologically younger than many of his age peers in terms of blood pressure and most likely cardiovascular functioning. However, his wispy white hair is a sign of physical aging that places him squarely with others in his chronological age group. Chapter 3 looks further at biological aging.

Functional age

Functional age has to do with a person's competence in carrying out specific tasks. As with biological age, functional age involves comparison with chronological age peers. An individual might be considered functionally young when his or her competence in some aspect of functioning compares favorably with that of chronological age peers. For example, an 85-year-old man who drives at night would be considered functionally younger than his chronological age peers who have given up driving at night. (As described in Chapter 4, visual changes that occur with increasing age can make nighttime driving difficult.) Keep in mind that functional capabilities, and thus functional age, can vary within the same individual (Siegler, 1995). For example, an 85-year-old man who drives at night may have severe arthritis that prevents him from walking around the block. Also, functional age is often evaluated in relation to a specific context. In many sports, an athlete might be considered functionally old at the age of 35. However, a 65-year-old head of a major investment fund or a 70-year-old President of the United States would not be considered functionally old.

Psychological age

Psychological age generally refers to how well a person adapts to changing conditions. To what extent can a person use cognitive, personal, or social skills to adjust to new circumstances or attempt new activities or experiences? Individuals who can adapt to changing conditions are considered psychologically younger than those who have difficulty doing so and prefer to do the same things over and over again. In short, we associate the ability to remain flexible with being psychologically young. Mark's desire to initiate a teaching career would make him psychologically younger than someone who does not have plans to start a second career at the age of 65. Chapters 4–7 cover topics related to adaptation in the realm of perceptual, intellectual, and cognitive skills. Topics related to adaptation in the realm of personality, social skills, work, and mental health are covered in Chapters 8–11.

Social age

Social age has to do with the views held by most members of a society regarding what individuals in a particular chronological age group should do and how they should behave. For example, people may be expected to

complete their education by their early 20s, marry by their late 20s or early 30s, have children by their early or mid-30s, and be established in a career by the age of 40. The individual who does not marry until age 40 and lives with his or her parents up to that time would be considered socially younger than the individual who leaves his or her parents' home at age 22 and marries at age 25. An individual who does not become a parent until age 42 would be considered socially younger than one who becomes a parent at age 28. Someone working in an entry-level job at age 40 would be considered socially younger than someone promoted to a middle-management level at age 40. Mark might be considered socially young because at age 65, he plans to embark on an entry-level career working with children.

Krueger, Heckhausen, and Hundertmark (1995) found that men and women ranging from 25 to 80 years of age had an especially positive view of a 45-year-old woman who conformed to their social expectations for middle adulthood: She had been married for 20 years, had two children aged 19 and 17, and worked as a department manager in a bank. In contrast, they had a negative view of a 45-year-old woman who had been married for only 5 years, had one young child, and worked at a low-level job in a bank with the hope of getting promoted. This woman had not accomplished what was expected by middle adulthood, and she would probably be considered socially young for her chronological age and stage in life.

Each society has its own expectations about roles to play and goals to attain in young, middle, and older adulthood. Krueger et al.'s study was conducted in Berlin, Germany, and it remains to be seen whether the results would be the same if a similar study were to be conducted in the United States. Neugarten (1977) contended that people use a social clock to evaluate whether their own progress or the progress of others is "on-time" or "off-time." Later on, however, Neugarten placed less emphasis on a social clock. She argued that in the United States, age was becoming increasingly irrelevant as a predictor of needs, lifestyle, and accomplishments (Binstock, 2002). Even so, Staudinger (2015) suggests that societal stereotypes about age, as well as an individual's own image of his/her age, can interact with more objective measures of age. Stereotypes about age are discussed in greater detail in Chapter 8.

What Is Older Adulthood?

Although there are numerous ways to define age, we usually fall back on chronological markers when we judge whether someone has entered older adulthood or even middle age. When does middle age end and older adulthood begin?

Subjective age

The chronological age people select to mark the onset of middle and older adulthood seems to be colored by their own age or stage of adulthood. Individuals in their 20s often think that middle age starts in the 30s and older adulthood starts in the 50s but certainly no later than the 60s. In

contrast, individuals in their 60s consider themselves to be middle-aged. As adults become older chronologically, the gap between their chronological age and their subjective age becomes wider (Goldsmith & Heiens, 1992)—they feel younger than they are. Furthermore, the gap between subjective age and actual age is wider for middle-aged and older adult women than it is for middle-aged and older adult men (Montepare & Lachman, 1989).

The magic age of 65

There is no set rule about when an individual is considered to be an older adult. Nonetheless, the age of 65 has come to signify the official age of entry into older adulthood. The association of age 65 with the start of older adulthood can be traced to the Social Security system that the U.S. government established in 1935. At the time the Social Security Act was signed into law, the country was in the middle of the Great Depression, with many people in need (Brinkley, 2015). Among other functions, Social Security (discussed in more detail in Chapter 10) was intended to provide some level of economic security in the form of a monthly pension to older adults when they retired from the paid workforce. Individuals in the United States who made contributions throughout their working years became eligible for Social Security pension benefits once they reached 65, an age selected based on that used by many state retirement systems already in place as well as the federal Railroad Retirement System. However, as one step to insure the Social Security system remains financially solvent, the government is gradually raising the age at which workers become eligible to draw full pension benefits from 65 to 67. Time will tell whether the chronological age of 65, which has become an arbitrary marker of entry into older adulthood, will be pushed up as the age of eligibility for Social Security benefits increases.

Categories of older adulthood

A great deal of information in this book is about older adults as a group, and many references are made to averages. General statements about older adults are one way of organizing what we know. At the same time, keep in mind that averages do not describe every individual in the group.

It would be a mistake to assume that once a person reaches age 65, he or she becomes a member of a homogeneous group. People in any age group are diverse—they have what psychologists call individual differences, or *interindividual variability*. Among people aged 65 and older (65+), there is interindividual variability on almost every possible measure. Some 65-year-olds are fully retired from the paid labor force, while others work full-time. Some 75-year-olds suffer from incapacitating health problems, while others lead active lives, traveling or participating in walking groups or marathon races. Some 80-year-olds have difficulty with hearing or with memory, while others can hear a pin drop and never forget a name. Study after study has shown that individual differences are even greater in the older age group than they are in young adult or middle-aged groups.

Photo Image 1.2 *There are great individual differences among older adults in many aspects of functioning. For example, some are physically active (a) and others have physical limitations (b). Credit: Michaeljung/Shutterstock and Edler von Rabenstein/Shutterstock, respectively.*

One way to acknowledge the variability in individuals who are aged 65 and over (65+) is to segment older adulthood into categories based on chronological age: **young-old** (ages 65–74), **old-old** (ages 75–84), and **oldest-old** (ages 85+). Compared with individuals in the old-old and oldest-old categories, those in the young-old category have greater physical vigor and are less likely to suffer from significant sensory or cognitive decline. In fact, many young-old adults differ very little from adults in late middle age. In general, old-old adults experience more of what are considered to be age-related changes in sensory, perceptual, and cognitive functioning. Compared with individuals in the young-old and old-old groups, individuals in the oldest-old group have the highest rate of health problems and the greatest need for services.

Many researchers use this three-tier categorization of older adulthood, and we will refer to it throughout this book. Even so, keep in mind that there are individual differences within each category. For example, some people in the oldest-old group are healthier and more active than people in the young-old group.

The three-tier categorization of chronological age is useful for some purposes, but the fact is that chronological age is an **organismic variable**. As Chapter 2 describes further, an organismic variable cannot be manipulated or controlled. We may find that adults who fall into a certain chronological age range tend to behave in particular ways, solve problems using a certain type

of strategy, or express certain opinions. Even so, we cannot conclude that chronological age causes them to behave, solve problems, or think as they do. Age is mixed up, or *confounded*, with other variables, such as educational exposure and life experiences. Either separately or in combination with age, these variables could be the basis for the behavior, problem-solving strategies, or opinions held by individual members of a particular age group.

Terms for the 65+ age group

A number of terms refer to individuals who are aged 65 and older. The term *older adults* has already been used in this chapter. *Old* and *elderly* are used more often to refer to individuals in the old-old and oldest-old groups. Although there is no firm rule, *elderly* often refers to older adults who are in frail health or reside in institutional settings such as nursing homes, and the term *elders* is sometimes considered to be one of respect. The terms *retired* and *retired Americans* are often used, but they are not always appropriate because some individuals in the 65+ age group work part- or even full-time. Interestingly, the American Association of Retired Persons is now referred to as the AARP, and the travel/educational programs it sponsors are now called "Road Scholar." Other terms include *the aged*, *golden-agers*, *older Americans*, *seniors*, and *senior citizens*. Now that the older segment of the baby boom generation (born between 1946 and 1964) has attained the age of 65 and the younger members are fast approaching, *boomers* is a term that is frequently used. Some gerontology researchers jokingly refer to older adults as *chronologically challenged*, *chronologically gifted*, and *chronologically advantaged*.

Older adults are sensitive to the terms people use to describe their age group. Many of them feel that some terms are less favorable than others. For example, a label such as *the aged* might be considered less favorable than *senior citizens*, which may be regarded as less favorable than *older adults* (Kite and Wagner, 2002). In general, older adults prefer that unfavorable terms be avoided because they fear they will become victims of ageism.

Ageism

Ageism refers to a set of ideas and beliefs that are associated with discriminatory attitudes directed toward older adults (see Erber & Szuchman, 2015). It implies negative beliefs, or stereotypes, about older adults as a group. Ageism can manifest itself in low expectations about an older adult's cognitive capabilities or in negative beliefs about an older adult's personal or social capabilities. According to Palmore (2001), ageism is the third greatest "ism" in American society, following racism and sexism. Unlike racism and sexism, however, all of us could become targets of ageism if we live long enough.

Although ageism connotes discriminatory attitudes, people's views of older adults are not uniformly negative. Hummert (1990) found that young adult college students hold multiple stereotypes about older

adults, some negative (e.g., "set in ways" and "old-fashioned") but others positive (e.g., "generous" and "loving"). Also, many people recognize the diversity among older adults with regard to personal characteristics (Hummert, Garstka, Shaner, & Strahm, 1994). In some instances, people credit older adults with a higher degree of desirable traits such as being responsible, understanding, and cheerful (Erber & Szuchman, 2002). However, people often stereotype older adults as warm but incompetent, and the view that older people are sweet but feeble has been found not only in the United States but also in Belgium, Costa Rica, Hong Kong, Japan, Israel, and South Korea (Cuddy, Norton, & Fiske, 2005). Thus, evidence of ageism is not confined to Western countries. Relatedly, a subtle form of ageism is evident in *compassionate stereotypes*, which foster a view of older adults as helpless and in need of advocacy (Revenson, 1989). Quadagno (2008) refers to the *new ageism*, which is an overly solicitous attitude toward older adults, including an assumption that important life-changing decisions that affect their lives should be made without consulting them.

Because of the negative effect it can have, ageism should be carefully monitored. Perhaps ageism will decline as the older population continues to grow in size. Discussion of topics related to attitudes toward older adults can be found throughout this book (see Chapters 5–8 and 10).

Demographic Profile of Older Americans

Demography is the scientific study of populations that focuses on broad groups within a specific population or sometimes across different populations. Demographers study past and present population trends and characteristics, including size, growth, and migration patterns. They also study population characteristics such as age, gender, marital status, living arrangements, health, educational level, economic status, and geographical distribution. Demographic descriptions are usually expressed in terms of statistical measures such as the mean (average), the median (50% of the population is above and the other 50% below the median), or the percentage of a specific group or subgroup in the population that possesses a particular characteristic. These measures provide an overall picture of a population.

Global Considerations and Demographic Transition

At present, there is a larger proportion of older adults (65+) in the more developed regions of the world and a smaller proportion in the less developed regions. Table 1.1 shows the proportion of the older population in Africa, North America, Latin America and the Caribbean, Asia, Europe, and Oceania.

Table 1.1 *Percentage of population aged 65+ by continent*

Continent	% of population aged 65+
Africa	4
North America	15
Latin America and Caribbean	8
Asia	8
Europe	17
Oceania	12

Source: Population Reference Bureau (https://www.prb.org/pdf16/prb-wpds2016-web-2016-pdf).

Demographers have described several distinct stages of transition in the aging of populations (Myers, 1990; Myers & Eggers, 1996). Populations in agriculturally based preindustrialized societies are characterized by a high birthrate and a high death rate. The high birthrate is mainly due to low use or availability of birth control methods. The high death rate stems largely from poor sanitary conditions, poor nutrition, and lack of medical technology. Such societies consist of a large proportion of younger members and a small proportion of older ones. As societies become more industrialized and technologically advanced, they enter a second stage of transition in which the death rate declines due to better control of infectious and parasitic diseases, but the birthrate remains high. The size of the population grows but younger members still predominate. For societies in the third stage of demographic transition, the rate of growth is slower because the birthrate declines, which results in an increased proportion of older persons. Societies in the fourth and final stage of transition are characterized by extremely low birthrates and death rates, at least into advanced old age. Population growth is minimal, and the proportion of people in the various age categories is similar. Few babies are born, but those who are will have a good chance of living into old age.

The increase in the older population in developed countries such as the United States has been a major force in the expansion of interest in the study of aging and older adulthood. Demographic information is crucial because it can assist us in recognizing the needs of the older age group. For example, as the age distribution of a population shifts, changes in the types of living environments that are available may be necessary. As described in Chapter 10, there may be an increased need for housing that offers services such as meals on the premises and van transportation. Also, information about demographic characteristics of the older adult population is useful when investigators want to recruit a sample of research participants who are representative of the older adult population. Further discussion of sampling strategies appears in Chapter 2.

Demographic information is essential for understanding past and present population characteristics, but it can also be used to project future trends in the size and growth of a particular segment of the population. The projections that demographers make may not be exact, but they offer guidelines about what the likely size and characteristics of the population will be in the future. The population of primary concern for those who study aging and older adulthood is the group aged 65 and over.

Number and Proportion of Older Adults

The high birthrate in the **baby boom years** (1946–1964) and advances in medical care in the United States have long been expected to lead to an increased number of people in the 65+ age category. This projection is becoming a reality. The first wave of baby boomers celebrated their 65th birthday in 2011. The baby boom generation will continue to swell the ranks of the 65+ age group through the year 2030. The United States is undergoing a silent revolution: the aging of its population.

Figure 1.1 shows how many older adults aged 65+ lived in the United States at several different points in time. Note that, in 1900, the number was a relatively small 3.1 million. By 2000, the number had increased more than tenfold to 35 million. In 2015, there were 47.8 million, and projected estimates for the future are 56.4 million older adults (65+) by 2020, 82.3 million older adults (65+) by 2040, and 98.2 million older adults (65+) by 2060.

In 2015, 3.5 million Americans celebrated their 65th birthday. Moreover, between 2014 and 2015, the number of Americans aged 65+ increased by 1.6 million (*A Profile of Older Americans*, 2016). Not only is the number of older adults growing, but so is their proportion of the U.S. population. In 1900, older adults (65+) made up 4.1%, but as of 2015, they made up 14.9% of the population (*A Profile of Older Americans*, 2016), a proportion that is projected to increase in the coming decades.

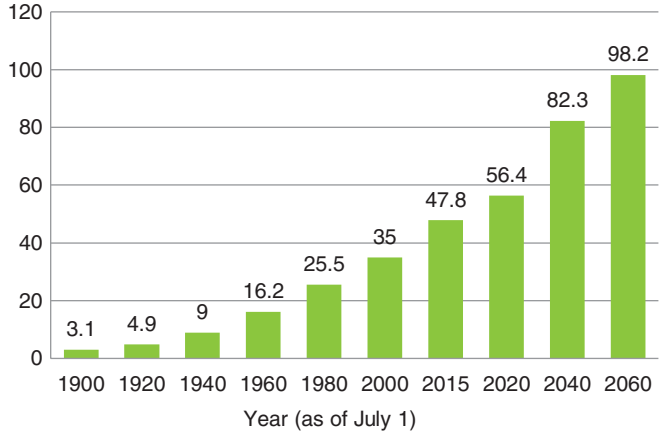

Figure 1.1 *Number of persons aged 65+ in the United States, 1900–2060 (numbers in millions). Credit: U.S. Census Bureau, Population Estimates and Projections.*

The projection that older adults will make up a larger proportion of the U.S. population in the coming decades is based on several trends. First, the entire baby boom generation (born between 1946 and 1964) will have entered older adulthood by 2030, which will swell the sheer number of people in that age

group. Second, with the decline in birthrate after 1964, fewer additions were made to the younger segment of the population. A low birthrate contributes to the general aging of the population because fewer babies offset the large number of people entering the older adult age category. If the birthrate were to increase significantly in the future, the number of older adults in the U.S. population would be more balanced by the youngest members. This would reduce the proportion of the population in the older adult age category.

Population pyramid

A **population pyramid** is a bar graph that illustrates how a population is distributed in terms of both age and gender. The population pyramids in Figure 1.2 show the proportion, or percentage, of the total U.S. population falling into 5-year age categories in 1900, 1970, 1995, and 2030. The youngest age group (<5) is at the base of the pyramid, with increasingly older 5-year ages in the segments above. The group at the top of each pyramid includes those in the 85+ age category. Population pyramids represent proportions of a population not only by age but also by gender. The left side of each population pyramid represents the proportion of males in each age cohort, and the right side represents the proportion of females.

The shape of the graph in 1900 suggests why the term *population pyramid* came into use. Note that, in 1900, each 5-year category is slightly smaller in proportion than the one immediately beneath it, and the proportion of males and females in each age category is almost identical. The resulting shape is a pyramid.

By 1970, the graph bears much less resemblance to a pyramid, but its shape reflects several important features of the U.S. population. First, a smaller base is due to the decline in birthrate. Also, a low birthrate between the years 1925 and 1940 (possibly in response to the social and economic conditions of the Great Depression and the beginning of World War II) gives the graph a constricted middle, indicating that the proportion of the

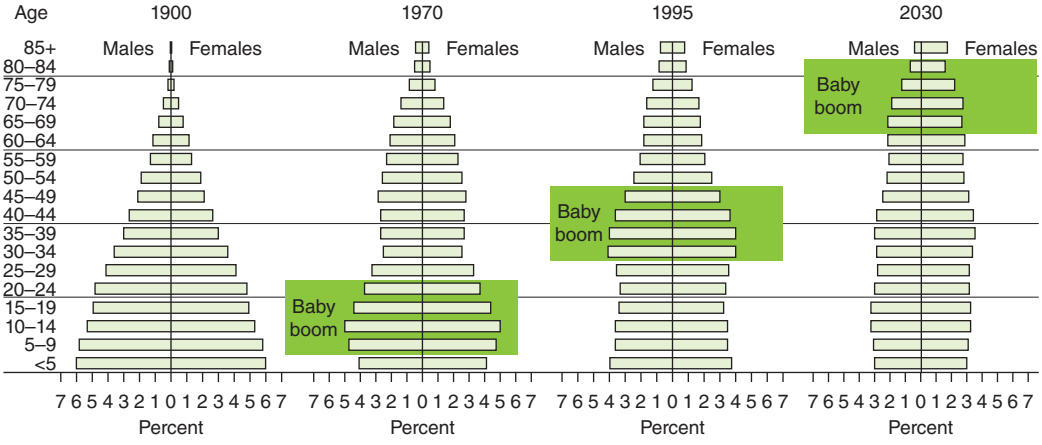

Figure 1.2 *Population pyramids for the United States in 1900, 1970, 1995, and 2030 (projected). Credit: U.S. Census Bureau.*

population between the ages of 30 and 45 is relatively small. Third, compared to 1900, a larger proportion of the population now falls into groups aged 65 and over. In 1995, the shape of the graph is even less like a pyramid than it was in 1970. The birthrate remains steady, and the older (65+) age groups are gaining in proportion.

The shape of the population pyramid projected for the year 2030 is based on a number of assumptions, one of which is birthrate. The youngest 5-year segments of the graph are all similar in proportion, which indicates a projected age structure with a constant birthrate that is slightly lower than it was in 1995. At the same time, there is a dramatic increase in the population aged 65+ because by 2030 the baby boomers have all entered their older adult years. The most notable increase in proportion is for the oldest-old (85+) age category. Overall, the graph projected for the U.S. population in 2030 resembles a beanpole rather than a pyramid.

The aging of the older adult population

In developed countries, the older population is itself showing signs of aging. In the United States, the older population is getting older. Compared to 1900, the overall percentage of Americans 65+ as of 2015 has more than tripled (4.1%, or 3.1 million, in 1900 vs. 14.9%, or 47.8 million, in 2015). Breaking the 65+ age group into young-old, old-old, and oldest-old, the number of Americans aged 65–74 (27.6 million) was more than 12 times greater in 2015 compared to 1900; the number of Americans aged 75–84 was more than 17 times greater in 2015 (13.9 million) compared to 1900; the number of Americans aged 85+ was 51 times greater in 2015 compared to 1900. In 2015, the U.S. centenarian (100+) population (76,974) was more than double the 1980 centenarian population (32,194) in 1980 (*A Profile of Older Americans*, 2016).

There is little question that in the United States, and most likely in other developed countries, older adults will be an even more important force than they are today. Now that we have covered present and future trends in the older population, let's take a closer look at some characteristics of this growing segment of the U.S. population.

A Snapshot of the Older Population

Populations can be described in terms of characteristics such as gender, marital status, living arrangements, health, level of education, economic status, and geographical distribution. What can be said about the older adult (65+) population in the United States with regard to these dimensions?

Gender

The population pyramids in Figure 1.2 show the proportion of males in each age group on the left and the proportion of females on the right. The symmetrical shape of the population pyramid in 1900 indicates a balanced proportion of males and females in all age categories. In the pyramid projected for 2030, note that there is a greater proportion of females than males in the groups aged 65 and older.

Photo Image 1.3 *Men usually marry women younger than themselves. As a result, married men are less likely to lose their spouses than married women are. Credit: Hepp/The Image Bank/Getty Images.*

Not surprisingly, the proportion of men and women in the older-adult age group is reflected in their numbers. In the United States in 2015, there were 26.7 million women and 21.1 million men aged 65 and older, with a ratio of 126.5 women for every 100 men. This gender gap widens in the oldest-old (85+) age group: 189.2 women for every 100 men (*A Profile of Older Americans*, 2016).

Marital status

In 2016, 70% of older men but only 45% of older women aged 65+ were married (*A Profile of Older Americans*, 2016), as seen in Figure 1.3. Why are older men more likely than older women to be married?

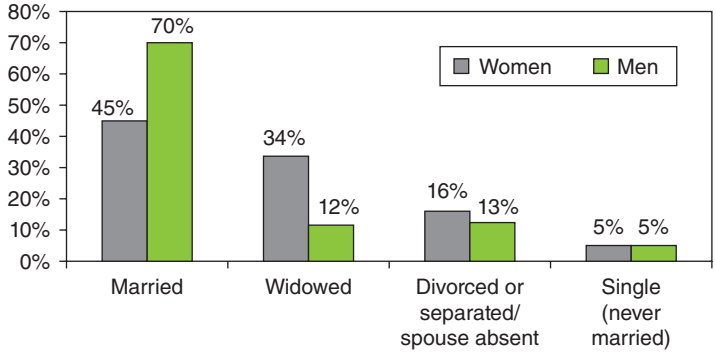

Figure 1.3 *Marital status of older (65+) men and women. Credit: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement.*

Although there are some exceptions (notably, French President Emmanuel Macron, who is 24 years younger than his wife Brigitte), men usually marry women younger than themselves. Also, as Chapter 3 describes, women tend to live longer than men. As a result, married women lose their spouses more often than married men do. Also, older men who lose their spouses are more likely to remarry than are older women who lose their spouses. In 2016, 34% of older (65+) women were widows (i.e., they had lost their spouses and not remarried), whereas only 12% of older men were widowers.

In 2016, 5% of older (65+) men and 5% of older (65+) women fell into the never-married category. However, 16% of older (65+) women and 13% of older (65+) men were divorced or separated. Overall, the percentage of divorced or separated older adults was 14% in 2016, which is substantially higher than the 5.3% of the older population that was divorced or separated in 1980 (*A Profile of Older Americans*, 2016).

Living arrangements

The larger proportion of women in the older age group, combined with gender differences in marital status, has implications for living arrangements. In 2016, more than half (59%) of older (65+) noninstitutionalized adults were living with a spouse or partner. However, as seen in Figure 1.4, 73% of 65+ men (15.5 million) but only 47% of 65+ women (12 million) lived with a spouse or partner. Note also that 35% of older women but only 20% of older men were living alone (*A Profile of Older Americans*, 2016).

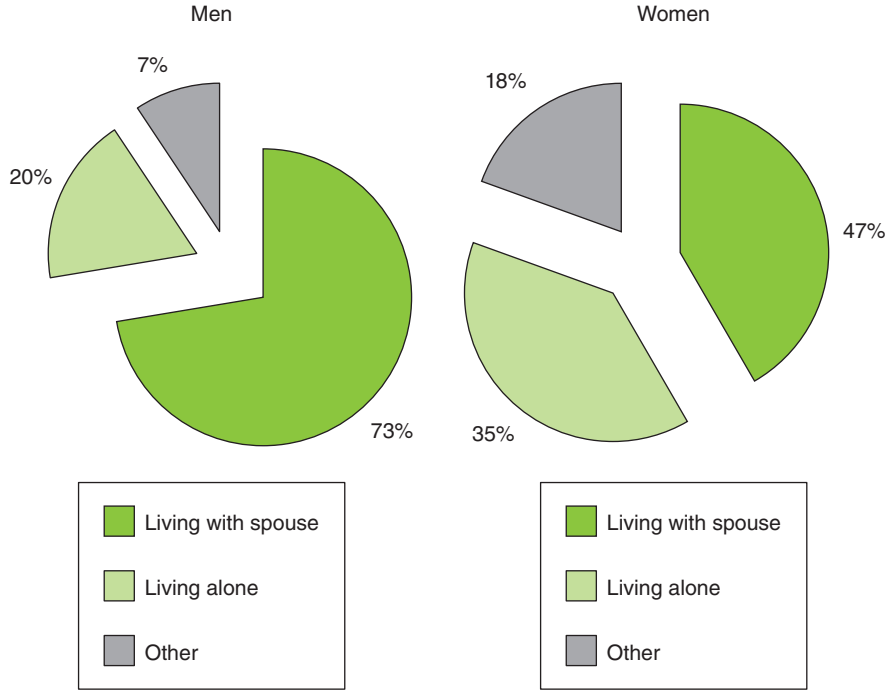

Figure 1.4 *Living arrangements of older (65+) adults. Credit: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement.*

For older adults who prefer to continue living in same homes and apartments where they have always lived, the recent proliferation of services such as food delivery and door-to-door transportation make this choice more feasible.

As of 2015, approximately 1.5 million (3.1%) of people aged 65+ lived in institutional settings, which includes 1.2 million living in nursing homes. However, the percentage of older adults living in institutional settings increases dramatically with age: 1% of people aged 65–74, 3% of people 75–84, and 9% of people aged 85 and older (*A Profile of Older Americans*, 2016). Given the anticipated increase in the number of people living into the old-old (75–84) and especially the oldest-old (85+) age categories, it is not surprising that the nursing home and assisted-living industry has been growing. Nursing homes and assisted-living facilities will likely fulfill a needed role as more people live into the old-old and oldest-old age categories, especially older adults who have been living alone in the community. The same is true for senior housing that offers at least some supportive services (e.g., one or more meals on the premises) for residents, which will make it possible for them to continue living with relative independence.

Racial and ethnic composition

As of 2015, 22% of the overall 65+ population in the United States were members of racial or ethnic minority populations as follows: 9% African Americans (not Hispanic); 4% Asian or Pacific Islander (not Hispanic); 0.5% Native American (not Hispanic); 0.1% Native Hawaiian/Pacific Islander (not Hispanic); 0.7% identify themselves as being of two or more races. Persons of Hispanic origin of any race represented 8% of this population. The overall proportion of 22% in 2015 represented an increase from the overall proportion of 18% in 2005. By 2030, the proportion of the racial and ethnic minority 65+ population is expected to increase further to 28%, which exceeds the projected increase in proportion for the nonminority older population (*A Profile of Older Americans*, 2016).

Health

Many older adults are in good health. In 2015, 44% of noninstitutionalized adults aged 65 and older and 39% of noninstitutionalized older adults aged 75 and older assessed their own health as excellent or very good as compared to 54% for people aged 45–64 (*A Profile of Older Americans*, 2015, 2016). Even so, 35% of noninstitutionalized older adults have at least one type of disability. Figure 1.5 shows the percentage with some of the more common disabilities. Furthermore, limitations on activities increase as people progress from their young-old to old-old to oldest-old years (More detailed discussion of daily functioning and health appears in Chapter 3.)

As a group, the old-old and oldest-old are more in need of help compared with the young-old. With regard to gender, older men tend to be

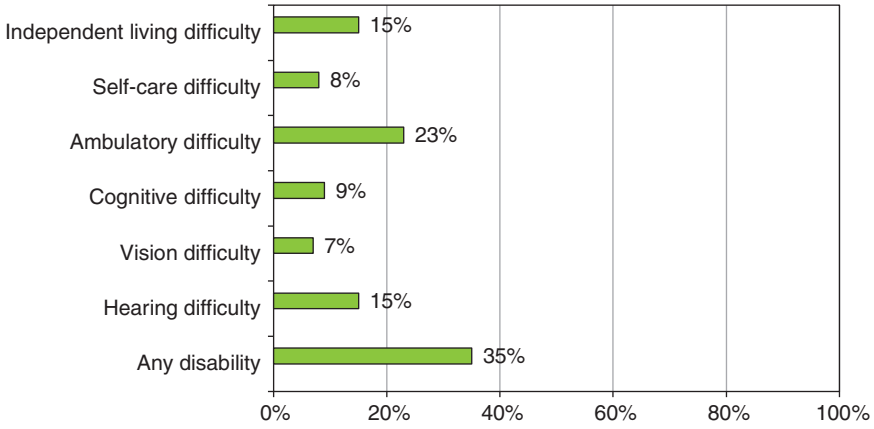

Figure 1.5 *Percentage of community-living persons 65+ with a disability, 2015. Credit: U.S. Census Bureau, American Community Survey.*

better off than older women in terms of physical health (Perls, 2004b). While women live longer than men do on average, older women are more frequently afflicted with chronic health problems, such as arthritis and osteoporosis (thinning of the bones), that restrict their mobility. Furthermore, older women are more likely than older men to live alone, so older women are apt to experience greater difficulty if they do suffer from limitations in functioning.

Caregiving

Given the sizeable percent of older adults that experience some limitations in activities, how can we account for the fact such a small proportion are living in institutional settings? The need for caregiving increases with age—those over the age of 85 were twice as likely (20%) than those between ages 75 and 84 to need help from others with personal care. Also, in the oldest-old age group, a greater proportion of women (23%) than men (14%) needed help with personal care (*A Profile of Older Americans*, 2016); yet, older women are more likely to be living alone.

Caregiving is the focus of a great deal of aging research. *The Gerontologist* (2017) published a unique issue with personal reports written by gerontologists about their own aging as well as their caregiving efforts for older family members (Pruchno, 2017). Many family caregivers are in their late middle-aged or young-old years—it is not uncommon for a 60-year-old adult child to provide care for an 85-year-old parent. Most family members who provide care for older adults are not paid for their services, so combining caregiving with paid jobs can be challenging. However, it is important to keep in mind that while some older adults need care, others actually provide care, especially to spouses who are in need but in many cases to grandchildren whose parents work full-time or are otherwise not available. (Chapter 9 discusses this in more detail.)

Education

Older adults of today have achieved higher levels of education compared to older adults in the past. Between 1970 and 2016, the proportion of older adults who completed high school increased from 28% to 85%. However, the percentage of older adults who completed high school varies by race and ethnic background as follows: 90% Whites (not Hispanic); 80% Asians (not Hispanic); 77% African Americans (not Hispanic); 71% American Indian/Alaska Natives (not Hispanic); and 54% Hispanics. As of 2015, approximately 28% of adults aged 65+ had a bachelor's degree or higher (*A Profile of Older Americans*, 2016).

Economic status

People once assumed that older Americans were poor. In fact, however, the economic status of older adults has improved, in part due to the Social Security system established by the federal government in 1935 that was intended to provide a base level of economic security for retired older Americans. (Social Security is discussed further in Chapter 10.) The rate of poverty among older adults dropped from 35% in 1959 to 8.8% in 2015 (*A Profile of Older Americans*, 2016).

The majority of older adults do not live in poverty and some are affluent. Even so, in 2015, 4.2 million people aged 65+ were below the poverty level (the poverty threshold was $11,367 for an individual living alone). An additional 2.4 million older adults (5%) were classified as "near-poor" (income between poverty level and 125% of this level). When regional variations in the cost of living are taken into account, this rate could be even higher. Furthermore, there is a gender gap when it comes to poverty: In 2015, older women had a poverty rate of 10.3%, whereas the poverty rate for older men was 7%. Older adults living alone were more likely to be poor (15.4%) than older adults living with families (5.7%). Older Hispanic women who live alone have the highest likelihood of living in poverty (40.7%) (*A Profile of Older Americans*, 2016).

The future economic status of older adults holds much uncertainty. Older adults will be more educated, so depending on the state of the economy, their incomes will be higher during their working years. Additionally, more women are participating in the workforce. However, if young and middle-aged adults do not make careful financial plans for retirement, they may have to work to older ages than today's older adult generation did. As described in Chapter 10, working to older ages is not unreasonable because older people are healthier now than they were in the past and many jobs are less physically demanding today than they were in the past.

Geographical distribution

In 2015, 54% of Americans aged 65+ lived in 10 states (*A Profile of Older Americans*, 2016): California (5.2 million); Florida (3.9 million); Texas (3.2 million); New York (3.0 million); Pennsylvania (2.2 million); Ohio (1.8 million); Illinois (1.8 million); Michigan (1.6 million); North Carolina (1.5 million); and New Jersey (1.3 million). However, Georgia,

Virginia, Arizona, Massachusetts, Washington, and Tennessee each had over 1 million residents aged 65+.

Another way to view the geographical distribution of older adults in the United States is to calculate their proportion in a state by dividing the number of older adults (65+) by the total number of people in that state. In 2015 (*A Profile of Older Americans*, 2016), three states with the highest proportion of older adults were Florida (19.4%); Maine (18.8%), and West Virginia (18.2%). Keep in mind that the proportion of older adults in a state can increase when older adults migrate to them or when young adults exit.

Relocation

A popular belief is that once they retire, older adults pack up and move to warmer climates. In general, however, older adults are less likely than other age groups to change residences. From 2015 to 2016, only 3% of older adults moved compared to 13% of the population under the age of 65. Of older adults who did move, 62% stayed in the same county and 22% remained in the same state but moved to a different county. Only 16% of older movers relocated out of state or abroad (*A Profile of Older Americans*, 2016).

Many older out-of-state movers migrate to locales with warmer climates such as Arizona, Florida, and North Carolina, but some movement is related to a desire for less congestion and more attractive physical environments (Longino, 2003). Retired older adults who relocate are generally "sixty-something," enjoy relatively good health and are able, both physically and financially, to enjoy the recreational and social amenities in their new communities. As described more fully in Chapter 10, however, some of these retirees return to their states of origin when they enter the old-old category (75–84) and begin to experience economic and physical dependency. At that point, they want to be closer to the family members they left behind when they moved to distant retirement communities in their young-old years.

In sum, the older population in the United States is growing, and this growth is most concentrated in the oldest-old (85+) age group. Older adults are healthier, more educated, and economically better off now than in the past, but those in the oldest-old (85+) age group will probably need some extra services. Many older adults continue to live in the same location even after they retire, but a minority do relocate, often to warmer climates. However, some return to their home states when they become widowed or need help from family members. As the characteristics of the older population change, demographers will undoubtedly need to reevaluate the description of this age group.

Developmental Influences and Issues

Many factors influence us over our lifetimes, and developmental investigators have divided these into three categories: **normative age-graded influences**, **normative history-graded influences**, and **nonnormative life events**.