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Notes on Contributors

Jason C. Allaire is an Associate Professor of Psychology at North Carolina State University. He earned his PhD in Lifespan Developmental Psychology at Wayne State University (Institute of Gerontology) and completed his postdoctoral training at The Pennsylvania State University. His research interests center on examining the changes in cognition that occur during the latter portion of the lifespan and how these changes impact the ability of older adults to function in their everyday lives.

Anne Ingeborg Berg, PhD is an Assistant Professor and Licensed Psychologist at the Department of Psychology, University of Gothenburg, Sweden. The focus of her research has mainly been directed at various aspects of well-being in old age, with particular interest in the identification of prerequisites of life satisfaction and cognitive health.

Kira S. Birditt is an Assistant Research Professor at the Institute for Social Research at the University of Michigan. She has a PhD in Human Development and Family Studies from The Pennsylvania State University. Her research focuses on the negative aspects of social relationships and their implications for well-being across the lifespan.

Rosemary Blieszner is the Alumni Distinguished Professor of Human Development and Associate Director of the Center for Gerontology at Virginia Tech. Her research focuses on family and friend relationships, life events, and psychological well-being in adulthood and old age. She is coeditor of Older Adult Friendship and Handbook of Families and Aging, coauthor of Adult Friendship, Spiritual Resiliency in Older Women, and Spiritual Resiliency and Aging, and author of numerous journal articles and book chapters.

Cory Bolkan is an Assistant Professor of Human Development at Washington State University Vancouver where she teaches courses in Gerontology and Adult Development. Her previous research has explored self and personality processes in older adults to understand the relationship between mental and physical health, as well as health behaviors. In addition, she is currently working on research projects related to psychosocial aspects of late-life depression and the depression care delivery system.
Susan Turk Charles is an Associate Professor in the Department of Psychology and Social Behavior at the University of California, Irvine. Her work focuses on how emotional experiences vary across the adult lifespan, as well as how emotional experiences relate to physical health processes.

Adam Davey is an Associate Professor of Public Health at Temple University where he directs the Doctoral Program in Health Ecology and is a member of the Biostatistics Research Support Center. His more than 100 publications include Statistical Power Analysis with Missing Data: A Structural Equation Modeling Approach and Caregiving Contexts: Cultural, Familial, and Societal Implications. Current research focuses on exceptional survival (Georgia Centenarian Study) and patterns of cognitive change (Maine-Syracuse Longitudinal Study).

Colin A. Depp is an Assistant Clinical Professor in the Department of Psychiatry at the School of Medicine of the University of California, San Diego.

Judith Dirk is currently a postdoctoral researcher at the IDeA Center (Individual Development and Adaptive Education of Children at Risk) in Frankfurt, Germany. She obtained her PhD in 2010 from the University of Geneva where she was working on age- and task-related differences in interindividual and intraindividual variability in cognitive performance across the lifespan. Her current research focuses on children’s daily performance fluctuations, methodological aspects in the study of variability, and ambulatory assessment.

Barry A. Edelstein is a Professor of Clinical Psychology at West Virginia University. His scholarly work focuses on assessment of older adults, older adult decision making, and older adult anxiety.

Sarah Eisel received her BA from the University of South Florida, majoring in psychology, with a minor in gerontology. She is currently involved in research that examine the effects of diet and antioxidants on long-term memory, as well as the interaction between nicotine and alcohol.

Elliot M. Friedman is an Associate Scientist in the Institute on Aging at the University of Wisconsin-Madison. His background is in health psychology with a specific interest in Psychoneuroimmunology. He has numerous publications on social, behavioral, and psychological predictors of biological processes related to health, particularly inflammation, in middle-aged and older adults.

Lindsay A. Gerolimatos is a PhD student in Clinical Psychology at West Virginia University. She is currently working on her master’s thesis examining health anxiety in older adults. Her primary research interests include anxiety in older adults with a secondary interest in assessment. She earned her BSc in Human Development from Cornell University in 2009.

Denis Gerstorf is a Professor of Developmental Psychology at Humboldt University, Berlin, Germany, and also holds an Adjunct appointment at the Department of Human Development and Family Studies at The Pennsylvania State University. He is a lifespan developmental psychologist with a general research interest in better understanding
differential development across adulthood and old age. He is the recipient of the 2010 Springer Early Career Achievement Award in Research in Adult Development and Aging from Division 20 of the American Psychological Association.

**Christine E. Gould** is a doctoral candidate at West Virginia University. She is currently completing her predoctoral clinical internship at the Veterans Affairs Palo Alto Health Care System. She will continue as a postdoctoral fellow in the Special Fellowship Program in Advanced Geriatrics at the Geriatric Research Education and Clinical Center (GRECC).

**Eileen Kranz Graham** is a recent graduate from Brandeis University’s PhD program for Social and Developmental Psychology. She is currently on faculty at Mt Holyoke College as Visiting Assistant Professor and is continuing her research on personality and other psychosocial factors that contribute to maintaining cognitive health in older adulthood.

**Scott M. Hofer** is a Professor of Psychology and Harald Mohr MD and Wilhelma Mohr MD Research Chair in Adult Development and Aging at the University of Victoria, Canada. He codirects an international Integrative Analysis of Longitudinal Studies on Aging (IALSA) research network for the coordinated analysis and synthesis of longitudinal research on aging-related change and variation in cognition, health, and personality.

**Karen Hooker** is a Professor of Human Development and Family Sciences and Founding Director of the Center for Healthy Aging Research at Oregon State University. Her work on personality and aging is widely published in journals and books and she is currently Principal Investigator on an Integrative Graduate Education and Research Traineeship Program funded by the National Science Foundation.

**Derek M. Isaacowitz** is an Associate Professor of Psychology at the Volen National Center for Complex Systems at Brandeis University. His research focuses on links between attention and emotion in adulthood and old age. This work has been funded by the National Institute on Aging and has appeared in journals such as *Psychological Science*, *Developmental Psychology*, and *Psychology and Aging*.

**Dilip V. Jeste**, MD is the Estelle and Edgar Levi Chair in Aging, Director of the Sam and Rose Stein Institute for Research on Aging, and Distinguished Professor of Psychiatry and Neurosciences, University of California, San Diego. He is the recipient of multiple honors and awards, and federal research grants. He has published 10 books and over 600 articles in peer-reviewed journals and books. He is a member of the Institute of Medicine of the National Academy of Sciences, and is editor-in-chief of the *American Journal of Geriatric Psychiatry*, and is in the ISI list of the “world’s most cited authors.”

**Boo Johansson**, PhD is a Professor of Geropsychology at the Department of Psychology, University of Gothenburg, Sweden. He was affiliated with the Institute of Gerontology, Jönköping University 1975–2001. He also holds an adjunct position at The Pennsylvania State University. His research interests since the 1970s have mainly been directed toward various aspects of cognitive and mental health. His scientific publications are largely based on data from population-based longitudinal studies of older individuals and twin pairs followed until their death.
Leslie I. Katzel, MD, PhD is an Associate Professor of Medicine in the Division of Gerontology, Department of Medicine, University of Maryland School of Medicine, and Baltimore Veterans Affairs Medical Center (BVAMC); and Clinical Director of the BVAMC Geriatric Research Education and Clinical Center (GRECC). He has extensive experience in human clinical investigation and in the oversight of clinical research.

Margie E. Lachman is the Minnie and Harold Fierman Professor of Psychology at Brandeis University, where she is also director of the Lifespan Developmental Psychology Lab and the Lifespan Initiative on Healthy Aging. She is the editor of two books, Multiple Paths of Midlife Development (1997) and the Handbook of Midlife Development (2001). She is a co-investigator on the National Study of Midlife in the United States (MIDUS).

Richard B. Lipton, MD is a Professor and Vice Chair of Neurology, Professor of Epidemiology and Population Health at the Albert Einstein College of Medicine, where he also directs the Einstein Aging Study. He has a long-standing interest in the factors that contribute to cognitive decline in older adults, including both normative aging as well as Alzheimer’s disease and other dementias.

Vanessa M. Loaiza is a graduate student in the cognitive psychology program at Colorado State University. Her research focuses on the functioning of working memory across the lifespan. She is particularly interested in underlying processes supporting working memory performance that are intact or deficient with increasing age, and how these processes are differentially responsible for relations between working memory and higher order cognition.

David P. McCabe (1969–2011) was an assistant professor of psychology at Colorado State University. He will be remembered for his research that encompassed a wide range of topics pertaining to memory performance and accuracy across the lifespan, with a particular focus on age-related changes in working memory, conscious recollection, and metamemory. He used both experimental and individual differences methods to investigate age-related changes in controlled processing underlying higher order cognition.

Cathy L. McEvoy is a Professor of Aging Studies at the University of South Florida. Her research focuses on aging and memory, with an emphasis on the implicit, or unconscious, processes underlying recall and recognition. Her research has been funded by the National Institute on Aging and the National Institute of Mental Health.

Victor Molinari, PhD, ABPP (Clin.) is a Professor in the Department of Aging and Mental Health Disparities of the Florida Mental Health Institute at the University of South Florida. He is a member of the National Advisory Council on Aging, and has served on the American Psychological Association’s (APA) Committee on Aging and as past president of APA’s Society of Clinical Geropsychology.

Nicky J. Newton is a doctoral candidate in psychology at the University of Michigan. She received her BA degree (2004) in psychology from the University of California, Berkeley, and her MA degree (2007) in psychology from the University of Michigan. Her work has appeared in Psychology of Women Quarterly, and she was a cocontributor to The Handbook of Gender Research in Psychology (2010).
Jennifer R. Piazza received her PhD from the University of California, Irvine, and is currently a postdoctoral fellow at The Pennsylvania State University. Her work examining mental and physical health across the lifespan has been published in books and journals, including *The Journals of Gerontology: Psychological Sciences* and *Psychology and Aging*.

Andrea M. Piccinin is an Associate Professor in the Department of Psychology, University of Victoria, Canada. Her research focuses mainly on cognitive function in later life from a life-span individual differences perspective – on normal patterns as well as on the impact of disease and other characteristics and risk factors. She codirects the collaborative international network, Integrative Analysis of Longitudinal Studies on Aging (IALSA), which provides extensive opportunities for coordinated analysis and replication of developmental research from a within-person perspective.

Nilam Ram is an Assistant Professor of Human Development and Family Studies at The Pennsylvania State University with specialty in longitudinal methods. He works to develop intraindividual analytic techniques and study designs that maintain a focus on the individual while still tackling issues of aggregation and generalizability.

Philippe Rast is currently a postdoctoral fellow at the University of Victoria in the Centre on Aging. He received his PhD in psychology in 2008 from the University of Zurich. His research focuses mainly on the identification and explanation of individual differences in learning, on metamemory, and memory performance across the adult lifespan.

Kerri S. Rawson is a doctoral candidate in the School of Aging Studies at the University of South Florida, where she also completed her MS in Medical Sciences: Aging and Neuroscience. Her research focuses on the role of stress and immune system functioning on the cognitive performance of older adults.

Karen A. Roberto is a Professor and Director of the Center for Gerontology and the Institute for Society, Culture, and Environment at Virginia Tech. Her research focuses on the intersection of health and social support in late life. She is the author or editor of 10 books, including *Resilience in Aging: Concepts, Research, and Outcomes* (2011, with B. Resnick & L. Gwyther) and *Pathways of Human Development: Explorations of Change* (2009, with J. Mancini).

Carol D. Ryff is a Professor of Psychology and Director of the Institute on Aging at the University of Wisconsin-Madison. She also heads the MIDUS (Midlife in the US) national longitudinal study. Her research centers on the role of positive psychosocial factors as protective influences on health vis-à-vis the challenges of aging and social inequality. Explicating the biological processes through which such protective influences occur is a key objective in these studies.

Florian Schmiedek is a Researcher at the Max Planck Institute for Human Development in Berlin, Germany.

Daniel L. Segal is a Professor and Director of Clinical Training at the University of Colorado, Colorado Springs. His research interests include the assessment of psychopathology among older adults, suicide resilience, and expression and impact of personality
disorders across the lifespan. He is a Fellow of the Gerontological Society of America, an associate editor for the *Clinical Gerontologist*, and he serves on the editorial boards of three journals (*Behavior Modification, Clinical Case Studies, and Journal of Clinical Psychology*).

**Ilene C. Siegler**, PhD, MPH is a Professor of Medical Psychology and Psychology & Neuroscience, Duke University and Adjunct Professor of Epidemiology at the University of North Carolina at Chapel Hill. She received the 2007 Developmental Health Award from Divisions 20 and 38 of the American Psychological Association, and was a member of the National Advisory Council on Aging from 2000–03. She directs the UNC Alumni Heart Study from the Duke Behavioral Medicine Research Center.

**Dean Keith Simonton** is the Distinguished Professor of Psychology at the University of California, Davis. He studies genius, creativity, leadership, talent, and aesthetics. His more than 400 publications include 12 books. Honors include the William James Book Award, the George A. Miller Outstanding Article Award, the SPSP Theoretical Innovation Prize, the Sir Francis Galton Award for Outstanding Contributions to the Study of Creativity, and the Rudolf Arnheim Award for Outstanding Achievement in Psychology of the Arts.

**Martin J. Sliwinski** is a Professor of Human Development and Family Studies and director of the Center for Healthy Aging at The Pennsylvania State University. He received his doctorate in Neuropsychology from City University of New York and his BA in Interdisciplinary Studies from Georgetown University. His areas of research interest include early detection of preclinical dementia, health influences on cognition and well-being across the adult lifespan, and methodological issues in the developmental sciences.

**Brent J. Small** is a Professor of Aging Studies at the University of South Florida. His work focuses on cognitive aging in preclinical Alzheimer’s disease, the influence of context factors (e.g., diet, mental activities) on cognitive functioning, and the application of advanced statistical methods to longitudinal data. His research has been funded by the National Institute on Aging and the National Cancer Institute.

**Jennifer Tehan Stanley** is a postdoctoral fellow in the Emotion Lab at Brandeis University. She received her doctorate in Experimental Psychology, with a focus on Cognitive Aging from Georgia Institute of Technology. Her research interests relate to socioemotional functioning in adulthood. She is especially interested in how contextual factors influence age differences in emotion recognition and interpersonal functioning.

**Gregory M. Steinbrenner**, MS is an Exercise Physiologist and Clinical Research Associate in the Geriatrics, Research, Education, and Clinical Center at the Baltimore VA Medical Center. He has extensive experience in the assessment of functional performance in people with chronic diseases and in the implementation of exercise rehabilitation strategies to restore functional deficits and improve quality of life.

**Joshua R. Steinerman** is an Assistant Professor of Neurology at the Albert Einstein College of Medicine and Montefiore Medical Center, Bronx, New York, where he founded the Center for Healthy Brain Aging to integrate his clinical practice with community-based research in cognitive technology.
Abigail J. Stewart is the Sandra Schwartz Tangri Distinguished University Professor of Psychology and Women’s Studies at the University of Michigan, where she is Director of the ADVANCE Program, and Associate Dean of the Graduate School. Her current research examines educated women’s lives and personalities; women’s movement activism both in the US and globally; gender, science, and technology among graduate students, postdoctoral fellows and faculty; and institutional change in the academy.

Ipsit V. Vahia is a junior faculty member at the Stein Institute for Research on Aging at the University of California, San Diego, and staff psychiatrist at Sun Valley Behavioral Medical Center in Imperial, California. He serves on the editorial board of the American Journal of Geriatric Psychiatry and was recipient of a 2008 Junior Investigator Award from the International College of Geriatric Psychoneuropharmacology. He is currently working on several research projects related to successful aging.

Mo Wang is an Associate Professor of Psychology at the University of Maryland, College Park. His research focuses on older worker employment and retirement, and has appeared in prestigious academic journals, such as American Psychologist, Psychology and Aging, Journal of Applied Psychology, Personnel Psychology, and Academy of Management Journal. He currently serves as an associate editor for Journal of Applied Psychology. He also edited The Oxford Handbook of Retirement (2011).

Elvina Wardjiman is a graduate of the University of Michigan, where she received an honors degree in Psychology. While at Michigan, she became extensively involved in research through the Institute for Social Research and wrote her thesis on the role of personality on daily interpersonal tensions and salivary cortisol. She is currently applying her research skills to market research and plans to pursue a graduate degree in the future.

Stacey B. Whitbourne received her PhD in Social and Developmental Psychology from Brandeis University in 2005. She is a Research Health Scientist with the Massachusetts Veterans Epidemiology and Research Information Center (MAVERIC), a research service of the VA Boston Healthcare System; she is an Instructor of Medicine at Harvard Medical School and an Associate Epidemiologist with Brigham and Women’s Hospital, Boston, MA.

Susan Krauss Whitbourne is a Professor of Psychology and Director, Office of National Scholarship Advisement at the University of Massachusetts Amherst. She is the author of over 130 refereed articles and book chapters and 15 books (many in multiple editions and translations); her most recent work is The Search for Fulfillment. She is the recipient of a 2011 Presidential Citation from the American Psychological Association, and her research covers a wide range of topics in the psychology of aging.

Richard Zweig is an Associate Professor of Psychology at the Ferkauf Graduate School of Yeshiva University. He is coauthor of Personality Disorders in Older Adults: Emerging Issues in Diagnosis and Treatment and the recipient of two federal grants to train students in geropsychology. He has written and presented on the assessment and treatment of personality-disordered older adults, depression and suicide in the elderly, and geropsychology training.
Preface

Susan Krauss Whitbourne and Martin J. Sliwinski

The study of adult development and aging is a rapidly expanding field that is drawing increased attention throughout psychology and the other social sciences. As you will learn in this volume, “aging” is a decades-long process that covers the entire developmental period from late adolescence through the last years of life. Many of the chapters in this volume cover changes throughout the entire period of adulthood, although due to the nature of the field itself, our contributors have tended to give greater attention to the middle and later adult years.

For readers who are unfamiliar with the topic and are using this volume to gain an overview of the area, we would advise that you browse through the chapters in the order in which they appear. We have organized the chapters so that we begin with a solid theoretical overview, a grounding in current demographics, and then a review of the major areas of research formulated broadly within the biopsychosocial perspective. Our contributors were asked to provide a general overview of their specific topics and, within these topics, to focus on their particular areas of investigation. Readers with expertise in the area of adult development and aging will benefit from these overviews, but should be particularly interested in the state-of-the-art approaches that our contributors have succinctly summarized.

Although we represent different orientations within the field, both of us share a broad-based view that changes within the individual must be examined in a multidimensional, multifaceted manner. We agree with conceptualizations of development in the later years of adulthood that approach aging not as a linear, progressive, process of decline but instead believe that development is characterized by plasticity. This means that changes with age can be modified by factors within the individual and those within the individual’s context. Contemporary research in the field increasingly emphasizes the ways that aging individuals can prevent and compensate for changes that, in the past, were seen as immutable. Many of the contributors to this volume present concrete examples of this principle.
Part I of this volume begins with an overall theoretical orientation provided by Elliot Friedman and Carol Ryff, who explicitly present the biopsychosocial model and lays out the concept of successful aging, a theme that later contributors also address. In the following chapter, Susan Whitbourne and Stacey Whitbourne present the latest demographic information concerning the aging population within the United States and throughout the world. They present this data in terms of overall trends as well as according to demographic variations. Prevalence data for major diseases and health conditions are also covered in this chapter. Social context forms the organizing theme of the chapter by Dennis Gerstorf and Nilam Ram, who examine factors that shape well-being in late life. They present a heuristic model that provides a multilevel framework which connects regional and individual-level factors that regulate risk and resilience in older age. They argue that late life offers a naturally occurring “stress test,” which provides a novel lens through which to observe how these macrolevel and microlevel processes influence trajectories of well-being. Scott Hofer, Philippe Rast, and Andrea Piccinin survey developmental research methods, which represent a particular challenge for psychologists who study aging. Their discussion highlights central issues that fall at the interface among theory, design, and analysis. In particular, they address contemporary methodological challenges to the field that involve distinguishing normative versus nonnormative changes, disentangling multiple time-dependent processes, and the role of contextual factors(such as those discussed in Chapter 3) on modeling individual change.

Part II of the volume spans the areas of physical functioning and health. Leslie Katzel and Gregory Steinbrenner, building on the theoretical perspective of successful aging, review the literature on aging-related changes in physical strength and cardiovascular capacity. Their review focuses on the distinction between normal aging and disease, and also points to the importance of distinguishing between cross-sectional and longitudinal studies. They also show how compensation for normal aging and disease are possible through exercise, hence addressing the book’s theme of plasticity in later life. The relationship between personality and health is the subject of Ilene Siegler and Adam Davey’s chapter, which presents data from the University of North Carolina Alumni Heart Study (UNCAHS). In the UNCAHS, follow-ups of college students through their forties revealed striking relationships between college personality and midlife health. Their review of studies of centenarians show the importance of examining behavioral correlates of health at different age periods.

The chapters in Part III focus on cognitive functioning, traditionally an area that has a central place in the research on adult development and aging. Judith Dirk and Florian Schmiedek, in their chapter on processing speed, critically review the current state of our understanding of the most ubiquitous finding from the field of cognitive aging: age-related slowing. They provide a thorough critique of the extant literature, identifying several major limitations in our understanding of age-related changes in processing speed. Then they introduce contemporary approaches to quantitative modeling of response time variability as an approach to isolating and explaining the mechanisms underlying age-related slowing. Their chapter concludes by reviewing how these modeling approaches can connect with neurobiological process that underlie cognitive slowing. David McCabe and Vanessa Loaiza cover the topic of working memory, which, along with processing speed, have been identified as ”cognitive primitives” that could potentially explain age-related
differences on a broad range of higher order cognitive abilities. They identify several key questions for understanding aging and working memory, and relate these to major contemporary theoretical frameworks. Examining age effects across all areas of memory systems, Brent Small, Kerri Rawson, Sarah Eisel, and Cathy McEvoy provide a comprehensive review of the most recent findings on aging-related changes in semantic and episodic memory function. They identify a number of challenges that affect how we interpret results from cross-sectional and longitudinal studies for understanding memory and aging. They discuss the importance of considering cohort and retest effects for establishing the timing of aging-related memory changes. They conclude by discussing the highly relevant question of whether aging-related memory loss can be remediated, and review some recent studies that examined the effects of cognitively stimulating activities, physical activities, and dietary factors on memory loss. Jason Allaire’s contribution on everyday cognition presents a contrast to the findings of laboratory studies on cognition. Allaire points out that understanding “cognition in context” can have more real-world relevance to the functional capabilities of older adults than performance on “acontextual” laboratory-based assessments. He discusses approaches to measuring everyday cognition and how these approaches relate to important, real-world outcomes, such as instrumental functioning and mortality.

In Part IV, we include work in the area of personality and aging. Nicky Newton and Abigail Stewart provide a comprehensive view of personality development from the standpoint primarily of Erikson’s psychosocial theory. Their chapter includes an in-depth analysis of development in the areas of identity, intimacy, generativity, and ego integrity as well as discussion of suggested expansions of Erikson’s theory. Going beyond the notion of personality as an individual difference variable, they also examine development in relation to social roles, drawing from both empirical and narrative studies. Moving into socioemotional theory, Jennifer Stanley and Derek Isaacowitz discuss a wide range of findings on emotion and aging. Reviewing the literature ranging from self-report questionnaires to experimental data, they examine evidence in favor of important theoretical perspectives in the area including the “paradox of well-being,” and socioemotional selectivity theory. They point out that, consistent with the overall theme of the volume, there are important individual differences in approaches to aging. Nevertheless, their conclusions emphasize the generally “positive story” about aging and emotion as well as the ability of many older adults to compensate for age-related losses in other areas of functioning. Examining the link between personality and cognition, Eileen Graham and Margie Lachman review the emerging body of research connecting personality traits within the Five Factor Model and intelligence. They also show ways in which these relationships vary according to age, with different patterns of correlations for younger than for older adults. Included in their analysis are findings relevant to personality action constructs (PACs) and age differences in sense of control and self-efficacy. They also review the areas of stress, anxiety, identity, and coping, all of which are highly relevant to studies of older adults. From their perspective, personality is a resource that can help individuals navigate the changes in health, physical functioning, and cognition in later life.

The chapters in Part V cover “abnormal” aging, focusing on a range of psychological disorders. In their chapter on affective disorders and aging, Jennifer Piazza and Susan Turk Charles provide a “developmental lens” for viewing anxiety and mood disorders.
Although, as they point out, these disorders are less prevalent in older adults, psychologists need to be aware of how their symptoms appear because they may look very different than they do in younger adults with these disorders. These differences make diagnosis a challenge for mental health professionals. Moreover, these conditions overlap with other disorders such as dementia, and with each other as well. Consistent with the book’s theme, they provide a biopsychosocial analysis of psychopathology in later life. Joshua Steinerman and Richard Lipton focus exclusively on Alzheimer’s disease and dementias stemming from different physical conditions, including vascular dementia. They describe prevalence data from the perspective of early detection, arguing that dementia is underidentified during its prodromal or preclinical phases. They present a staging model for Alzheimer’s disease and argue for the importance of refining early classification as therapeutic development shifts from symptom management toward preventive intervention that can delay onset of clinical symptoms. Their discussion also highlights common and uncommon symptoms of dementia, as well as pharmacologic and nonpharmacologic treatments and preventive measures. Examining personality disorders in later life, Daniel Segal, Richard Zweig, and Victor Molinari also address issues raised by Piazza and Charles regarding difficulties in diagnosis and symptom overlap, problems that are particularly pronounced in the case of personality disorders. Tying in the findings on aging and personality development, they present evidence supporting the maturational model which proposes that aging is associated with change in adaptive abilities that tie into changes in symptom expression of these disorders. As indicated in the psychopathology chapters thus far, there is a need for improved assessment and diagnosis, the topic examined by Christine Gould, Barry Edelstein, and Lindsay Gerolimatos. They present a multifaceted approach to assessment that takes into account the developmental dimension in evaluating adults of different ages. Using a case report, they also illustrate how, ideally, clinical assessment takes place in a way that incorporates developmental principles. Although the chapter has a clinical emphasis, it also provides useful information for assessments conducted within research settings.

In Part VI, our contributors turn to social processes and aging. Continuing the theme of motivation and aging, Cory Bolkan and Karen Hooker examine a “six foci” model of personality and aging that places heavy emphasis on goals and self-regulation. Individuals navigate the later years, according to these authors, in order to achieve their goals; an understanding of these goals helps provide an understanding of the reasons behind an individual’s behavior. Moreover, sociocultural factors influence the way these goals are conceptualized and implemented. Aging stereotypes in particular influence the way that individuals set their goals by causing individuals to develop negative expectations, which in turn influence their performance. Rosemary Blieszner and Karen Roberto examine specific types of social relationships in adulthood, including romantic partnerships and friendships. They provide a lifespan development perspective on dyadic relationships, examining the links among relationships, health, and well-being. They also provide insights into friendships, a relatively understudied area within the field of adult development and aging. Expanding from dyadic to intergenerational relationships and aging, Kira Birditt and Elvina Wardjiman review the literature on parent–child relationships throughout adulthood, including research on intergenerational exchanges and caregiving. In contrast to the typical view of parent–child relationships in later life as being unidirectional, Birditt and
Wardjiman show the bidirectional nature of these interactions. A life course perspective on retirement is represented in Mo Wang’s chapter on the topic, emphasizing the importance of context, life history, and timing. Wang also discusses methodological issues in the study of retirement, pointing to the problems involved in cross-sectional studies that do not follow participants prospectively from preretirement to postretirement phases, and to the need for quantitative, meta-analytic studies.

Finally, Part VII returns to the theme of successful aging. Boo Johannsen and Anne Berg provide an in-depth and comprehensive review on the literature that falls under the rubric of “terminal decline.” They adopt a rigorously and unique developmental perspective in their approach to terminal decline, considering both time from birth and time from death. Their discussion of alternative time metrics for charting developmental trajectories dovetails with the chapter by Hofer, Rast, and Piccinin, and provides a concrete example of the complexity entailed in disentangling multiple time-dependent processes, both conceptually and methodologically. They conclude by describing the need for an integrative model for understanding changes in cognitive function and well-being that the biopsychosocial approach demands. Successful aging is examined by Colin Depp, Ipsit Vahia, and Dilip Jeste, who trace theories of healthy or optimal aging from the first use of the term in 1961 through present empirical studies that attempt to quantify this key concept. They review quantitative and qualitative research to provide an operational definition, analyzing the multiple components of optimal aging including wisdom and spirituality. Interventions such as dietary restriction, physical activity, cognitive interventions, and “antiaging” interventions present intriguing applications of knowledge about the factors that contribute to successful aging. Instead of “lifespan” as a measure of successful aging, both at the individual and population levels, they suggest considering the term “healthspan.” We end the volume with Dean Keith Simonton’s contribution on creative productivity in later life. He points out that previous work in this area has not taken sufficient account of factors such as career age (when a creative person begins a career) and is subject to the problems of aggregation error. Concluding that the age decrements in productivity do exist nonetheless, Simonton points out that there are still ample examples of highly productive older creators whose work far outshine those of younger individuals, or even themselves when they were younger.

We believe that we have assembled an outstanding array of contributors to the vital and vibrant field of adult development and aging. It is our hope that having got a taste of what the psychology of aging has to offer, our readers will embark on their own creative ventures, expanding the scope and range of research and theory on this ever-fascinating topic.
PART I

Foundations
Theoretical Perspectives

A Biopsychosocial Approach to Positive Aging

Elliot M. Friedman and Carol D. Ryff

A Historical Introduction

The topic of successful human aging has engaged many great minds, including the Roman orator Cicero (43 BCE/1923), who observed, “It is not by muscle, speed, or physical dexterity that great things are achieved but by reflection, force of character, and judgment; in these qualities, old age is usually not only not poorer, but is even richer” (Chandler, 1948). Similarly, Plato associated old age with calm and freedom (Griffin, 1949). Nearly two millennia would pass before positive aging would emerge as a topic of scientific inquiry. Such work began in the 1940s with a group of scholars at the University of Chicago who were interested in personal and social adjustment in old age (Burgess, 1960; Cavan, Burgess, Havighurst, & Goldhamer, 1949; Pollak, 1948). The Kansas City Studies of Adult Life (Williams & Wirths, 1965) continued the Chicago tradition and offered a conception of successful aging based on four dimensions: the amount of activity in which the individual was engaged, the ability to disengage, satisfaction with life, and maturity or integration of personality. Two additional components were later added: a balanced exchange of energy between the individuals and the social system, and a stable social system. Few of these ideas were accompanied by tools for empirical assessment.

In the decades that followed, life satisfaction became the most frequently investigated dimension of successful aging (for reviews see Cutler, 1979; Larson, 1978). The construct included components of zest versus apathy, resolution and fortitude, relationships between desired goals and achieved goals, self-concept, and mood tone (Neugarten,
Havighurst, & Tobin, 1961). Others elaborated the meaning of successful aging to include happiness, adjustment, affect balance, morale, subjective well-being, and optimal interplay between the individual and the environment (Fozard & Popkin, 1978; Herzog, Rodgers, & Woodworth, 1982; Lawton, 1977; Stock, Okun, & Benin, 1986). Some of these initiatives grew out of a specific focus on old age, while others were imported from different domains and applied to the later years.

Limitations of these early approaches were noted, such as the lack of guiding theory (Ryff, 1982, 1989a) which resulted in related problems (i.e., elusive definitions of constructs, assessment instruments lacking evidence of validity) (Sauer & Warland, 1982). Despite the emphasis on positive aging, much research was conducted with tools designed to assess ill-being (e.g., anxiety, depression, worry, anomie, loneliness, somatic symptoms; for reviews, see Lawton, 1977, 1984). Even on the positive side, much successful aging research utilized dependent variables that could characterize optimal functioning at any age, which, in turn, meant that the unique challenges and opportunities of growing old were neglected. Clark and Anderson (1967) drew attention to the challenges of aging by describing “adaptive tasks,” which included having an awareness of aging and a sense of instrumental limitations, redefining one’s physical and social life space, substituting alternative sources of need satisfaction, reassessing the criteria for evaluation of self, and reintegrating values and life goals. On the opportunity side of aging, Ryff (1989a) drew on multiple theories of psychosocial development (Bühler, 1935; Bühler & Massarik, 1968; Erikson, 1959; Jung, 1933; Neugarten, 1968, 1973) to advance an approach to well-being that incorporated such constructs as personal growth, purpose in life, and self-acceptance, all of which could potentially improve with age.

Other advances in successful aging research focused on psychological processes of selection, optimization, and compensation (Baltes & Baltes, 1990). Illustrated largely in the context of cognitive function, selection referred to the restriction of one’s life world to fewer domains of functioning, given age-related loss in adaptive potential. Optimization referred to engaging in behaviors that enrich and augment general reserves (e.g., cognitive reserve) and maximize chosen life directions and associated behaviors. Compensation resulted from restrictions in range of plasticity and adaptive potential, combined with the use of new strategies (e.g., external memory aids, when internal memory mechanics are insufficient).

Adopting a broader, less discipline-bound formulation, Rowe and Kahn (1998) defined successful aging to include three elements: absence of physical illness or disability, high levels of cognitive function and physical functioning, and active engagement with life. Little empirical research accompanied their formulation, although recent research with older Canadians showed that only one of the three criteria was empirically viable (Weir, Meisner, & Baker, 2010). That is, the majority of older Canadians maintained connections with their community (active life engagement), but with increasing age, many experienced disease-related disability and impaired physical functioning.

This brief introductory overview underscores diverse formulations of successful aging evident in gerontological research over the past 70 years, with some having more lasting impact than others. That the ideal of positive aging evolves through time is meaningful and appropriate, to the extent that new versions build on what has gone before by refining core conceptualizations and strengthening empirical underpinnings. With such evolution in mind, we posit that two overarching criteria are critical to theoretical and empirical
formulations of successful aging. First, normally occurring changes in the aging mind and body must be incorporated – that is, the formulation must be explicitly developmental, while also giving notable attention to individual differences in the timing of such change. Although lifespan developmental criteria have been previously prominent in psychological formulations of successful aging (e.g., Baltes & Baltes, 1990; Ryff, 1982), they have been curiously absent in formulations of physical aging. The Rowe and Kahn (1998) criteria of successful aging, in fact, neglect the reality that over the course of aging most older persons will develop multiple medical conditions. Comorbidity is thus part of normal aging and, as such, should be considered in formulating optimal later life functioning – something recognized half a century ago by Clark and Anderson (1967). Others have begun to endorse a conception of successful aging in which disease and functional limitations coexist, along with compensatory psychological or social mechanisms (Young, Frick, & Phelan, 2009).

A second key criterion is that the inherent interplay between biological, psychosocial, and social aspects of aging (Ryff & Singer, 2009) must be recognized – that is, formulations of successful aging must be fundamentally biopsychosocial. Our call for greater emphasis on a biopsychosocial approach is intended to address the neglect of biological processes in most prior formulations of positive aging, whether about psychological functioning or physical health. In this regard, we seek to connect the field of gerontology to a long and growing tradition in health research, which emanates from dissatisfaction with traditional medical models (Engel, 1977). Our intent is to build on advances in this literature, including those emerging from psychoneuroimmunology (Lutgendorf & Costanzo, 2003) and psychoneuroendocrinology (Campeau, Day, Helmreich, Kollack-Walker, & Watson, 1998; de Kloet, 2003). Combined with recognition of the wide heterogeneity among aged persons, we see the route to understanding why some age well and others do not as occurring via integrative models built on diverse combination of risk and protective factors (biological, psychological, social).

What follows is organized in four main sections. We first provide an overview of biopsychosocial approaches to health that we believe have useful import for the field of aging. Second, we address what it means to live well in later life, despite the emergence of medical comorbidities. Third, we consider what it means to live well in the face of social inequality. With both of these topics, we give primacy to psychological and social strengths, which are important not only for quality of life and positive subjective experience, but also because they are increasingly linked to biological regulation, brain activity, and unfolding trajectories of morbidity and mortality. Given the cascade of mechanisms and processes situated around these phenomenological experiences, which define the human condition, we conclude with consideration of interventions designed to promote psychosocial well-being.

**Biopsychosocial Approaches to Health**

Decades ago, psychiatrist George Engel proposed the adoption of a biopsychosocial model as an alternative to the dominant biomedical model (Engel, 1977). Engel recognized the
extraordinary power of the biomedical model to identify “biochemical defects” within the
body and to guide the development of treatments for these defects, but he called for
physicians to pay more attention to the psychological and social aspects of illness and the
patient. He believed that while many of the causes of and treatments for psychiatric
conditions likely involve specific biological processes within the brain, important other
aspects of treating psychiatric conditions – environmental factors associated with mental
illness, cultural and psychological factors influencing a person’s decision to seek treatment,
physician–patient communication, a patient’s willingness and ability to follow treatment
recommendations – require that physicians become familiar with the social and
psychological contexts of their patients’ lives. Engel called for the integration of the
biopsychosocial perspective into the training of medical students, and he himself
brought biopsychosocial training to the medical curriculum at the University of Rochester
where he taught.

Engel’s goal of fundamentally changing the practice of medicine has not been
extensively adopted; the biomedical model continues to dominate medical education
and practice. Thus his exhortation to the medical community remains as pertinent now as
it was 30 years ago (Alonso, 2004; Borrell-Carro, Suchman, & Epstein, 2004). The
biopsychosocial model has been incorporated into medical practice in a limited number
of ways (Bitton et al., 2008; Finestone, Alfeeli, & Fisher, 2008; Griffith, 2009; Koppe, 2010;
McCabe et al., 2010; McCollum & Pincus, 2009; Widerstrom-Noga, Finnerup, &
Siddall, 2009), but its largest impact has been in providing the framework for a generation
of basic science researchers and as a conceptual foundation for research disciplines favoring
an integrative perspective on biological processes relevant to health, such as psychosomatic
medicine (Fava & Sonino, 2010; Novack et al., 2007), psychoneuroimmunology
(Lutgendorf & Costanzo, 2003), and psychoneuroendocrinology (Campeau et al., 1998;
de Kloet, 2003). Psychoneuroimmunology (PNI) is the study of how the immune system
is affected by social and psychological experiences and the biological pathways, including
brain regulation, by which these influences impinge on immune function. Psychoneuro-
endocrinology (PNE) is the study of neural and hormonal responses to social and
psychological experiences. Psychosomatic medicine integrates the basic sciences of PNI
and PNE with a focus on clinical outcomes and potential interventions to improve health.
Many of the same biological systems and social and psychological processes feature in
research in all of these fields, so for the sake of parsimony we will not dwell on conceptual
or empirical distinctions among them. Rather, using PNI as an organizing framework, we
aim to present a broad overview of research that exemplifies a biopsychosocial perspective
and, as such, may inform integrative approaches to successful aging.

Long before PNI became a formal area of research, the physiologist Hans Selye
characterized a set of physiological changes that routinely occurred in animals after
exposure to stressors ranging from cold and surgical injury to sublethal doses of a variety
of drugs. These changes included a rapid decrease in the size of tissues related to the immune
system, such as lymph nodes and the thymus gland (Selye, 1936). Subsequent efforts
showed that adrenal hormones mediated the effects of Selye’s stressors on immune cells
and tissues (Dougherty, 1952), and to this day adrenal hormones remain central elements
of research focused on the biological effects of social and psychological experiences. Other
seminal lines of research that led to the development of PNI as a discipline included links