

PATHWAYS TO AGING WELL AMONG COLLEGE-EDUCATED WOMEN: THE
ROLES OF PERSONALITY DEVELOPMENT AND STRESS AND COPING

by

Henrietta Shellae Versey

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Psychology)
in The University of Michigan
2011

Doctoral Committee:

Professor Abigail J. Stewart, Chair
Professor Elizabeth Ruth Cole
Professor Christopher M. Peterson
Associate Professor Letha Chadiha

© Henrietta Shellae Versey

All rights reserved

2011

To my father, who always encouraged me to think logically and critically.

ACKNOWLEDGMENTS

I could not have completed this dissertation project without the love and encouragement of my family. Thank you for your never-ending support and unconditional love. Ron, you've taught me more about life than I ever imagined I could learn. And I'm still learning. Thank you for being my everything; your patience, understanding and love sustain me.

I would also like to acknowledge my committee members for their support on this dissertation project: Drs. Abigail Stewart, Elizabeth Cole, Chris Peterson and Letha Chadiha. I would especially like to thank Abigail Stewart for walking with me through doors I thought were surely closed. Thank you for nurturing the scholar within me, believing in me from the start and encouraging me through all my 'life events'. Liz, Letha and Chris all provided insightful feedback that broadened the scope of this dissertation. Thank you for listening and helping to refine this research. Chris, thank you for making me feel "positive" about my work and smart! Dr. David Winter, thank you for ensuring I didn't get lost during my time in PSC. My first teaching gig with you was an awesome experience. I've learned so much from you. A special thanks to my colleagues in the Gender and Personality in Contexts lab – I am grateful to you all for your willingness to provide feedback on various iterations of this research and for asking the hard questions to make me think.

Thank you to all those who championed me (and also to those who didn't) throughout my educational career. Each experience has made me a better person and a stronger intellectual. It truly takes a village. I would especially like to thank Mother Tuskegee, where it all started – thank you Drs. Velma Richardson, John P. Davidson, Roberta Troy and the

entire Tuskegee family. Thank you Dr. Abraido-Lanza, my mentor and friend – you made my time at Columbia University a wonderful and fulfilling journey. To my comrades and colleagues – LaToya Strickland, LaShondra Berman, Destiny Q. Ramjohn (W116th & Lenox!), Kellee White, Karen Florez, Chanelle Howe, Charisse Gates, Patricia Nwajuaku, Yvonne Okoh, Angela Bannerman, Kai Bullard, Debbie Barrington, Sharon Simonton, Amy Auchincloss, Stina Mair and the Speed Scrabble crew, Sacoby and Natasha Wilson, Zanetta Gant, Mahasin Mujahid, Maria Johnson, Jamie Perryman, Kanika Harris, Candice Munoz, Erin Howey, James Keith and Black Geniuses everywhere – I am forever grateful to you for your encouragement as well as the long lunches, late nights and academic debates over dinner. Our conversations have fundamentally shaped me and forced me to view the world (and my research) through multiple lenses.

Finally, I would not be at this point in my life without the people who helped create me. Thank you God for your guidance and providing me with many things unimaginable. Thank you to my parents and sister – Oliver, Diane and Tymikka – for being my first teachers. Dad, I hope I've made you proud. Not a day goes by that I don't miss you. Lastly, thank you to all my ancestors and those across the Diaspora who believed in liberation and fought for freedom from oppression. Those who came before me and paved the way – you are all my inspirations.

TABLE OF CONTENTS

DEDICATION	ii
ACKNOWLEDGEMENTS.....	iii
LIST OF TABLES	vii
LIST OF FIGURES	ix
LIST OF APPENDICES.....	x
ABSTRACT.....	xi
CHAPTER	
I. INTRODUCTION AND OVERVIEW	1
II. LITERATURE REVIEW	
Successful Aging	7
Personality at Midlife and Successful Aging.....	23
Personality as a Moderator.....	29
Within-group Heterogeneity and Health.....	36
Successful Aging in Context.....	40
Current Study	45
III. METHODS AND RESULTS	
Overview.....	49
Study I.....	50
Study II.....	61

	Study III	74
IV.	DISCUSSION	95
	Limitations	109
	Implications.....	115
	Conclusion	121
	APPENDICES	124
	REFERENCES	135

LIST OF TABLES

Table

3.1a Multiple regression analyses predicting successful aging (2008) from generativity and concerns about aging.....	56
3.1b Bivariate correlations among variables.....	56
3.2 Comparison of personality indicator means between Black and White women.....	58
3.3 Stability of variables over time (1995/1996-2005) for Smith and Radcliffe samples.....	66
3.4a Correlations between personality indicators (IVs) and successful aging (DV) for Smith and Radcliffe Samples.....	66
3.4b Bivariate correlations among variables (Smith)	67
3.4c Bivariate correlations among variables (Radcliffe)	67
3.5a Comparison of 1995 and 2005 successful aging and personality indicator means and standard deviations for Smith participants	68
3.5b Comparison of 1995 and 2005 successful aging and personality indicator means and standard deviations for Radcliffe participants.....	69
3.6 Hierarchical multiple regression analyses predicting successful aging from generativity and concerns about aging.....	70
3.7a Comparison of stress and personality resource means between Black and White women.	82
3.7b Comparison of stress and personal resource means between high-SEP and low-SEP women.....	82
3.8a Bivariate correlations between Stress and Resource Indicators and Health Outcomes.....	83
3.8b Bivariate correlations among variables in WLPS.....	84
3.9a Moderation by resources in the relationship between cumulative stress and subjective health.....	85

3.9b Moderation of resources in the relationship between cumulative stress and successful aging	87
----------------------------------------------------------------------------------------------------------	----

LIST OF FIGURES

Figure

1.1 Conceptual model: The effect of personal resources on the relationship between stress and health.....	48
3.2 Relationship between cumulative stress and subjective health moderated by cumulative resources.....	86
3.3 Relationship between cumulative stress and successful aging moderated by cumulative resources.....	88
4.1 Features of generativity	102

LIST OF APPENDICES

Appendix

A Successful aging aggregate measure.....	125
B Feelings about Life Generativity scale.....	127
C Feelings about Life Concerns about aging scale.....	128
D Discriminatory hassles measure.....	129
E Caregiving measure.....	130
F Self-efficacy aggregate measure.....	131
G Religiosity/spirituality measure.....	132
H Subjective health measure.....	133
I Socioeconomic Position.....	134
J Race.....	135

ABSTRACT

In this dissertation, I outline current understandings of the concept of successful aging and then empirically examine correlates and predictors of successful aging and overall health. Using data from three longitudinal samples of college-educated women, I assess relationships among personality, personal resources and health in women transitioning from midlife to older age, using three major metatheories to examine these issues: *successful aging*, *personality development* and *stress and coping*.

The first two studies in this dissertation examine potential developmental correlates of successful aging (Rowe & Kahn, 1997), generativity and concern about aging, in three samples of women. The third study focuses on *stress and coping* as a model (Lazarus & Folkman, 1984) that is widely used to predict mental and physical health at all ages. Mental and physical health are, of course, elements that are included in definitions of successful aging. Due to the evidence suggesting that stress and stress-related events compromise health and accelerate aging over the life course, I examine the direct effect of certain stressors, perceived discrimination and caregiving, and the potential influence of moderating personal resources (religiosity/spirituality and self-efficacy) on subjective health and successful aging in a mixed-race sample of college-educated women with varied social class backgrounds.

The findings from the first two studies indicate that there is a consistent relationship between personality development and successful aging. While higher levels of generativity predict increased levels of successful aging in two samples, increased concern about aging is associated with lower levels of successful aging in all three samples. Findings from study three reveal that there is a significant inverse relationship between stress and both subjective health and successful aging. However, this relationship is moderated by personal resources, particularly self-efficacy. For women who reported low levels of personal resources, stress yielded a more negative impact than for those who reported higher levels of personal resources with the same burden of stress.

Findings from this research suggest further work is needed to contextualize factors contributing to healthy aging outcomes. Future research should address how personality development and person-characteristics promote risk or resilience among adults entering older age.

CHAPTER I

INTRODUCTION AND OVERVIEW

In the last two decades, a substantial body of research defined by the landmark MacArthur Study of Successful Aging has attempted to identify specific factors that optimize quality of life and well-being in older age. The MacArthur Study, a three-site longitudinal study of elderly adults, is the most widely published and recognized biomedical investigation of successful aging (Roos & Havens, 1991; Seeman et al, 1994). A principal investigator on those studies noted the emergence of a “new gerontology” that expands beyond basic research on mortality, disability and cognitive decline in the elderly to understand the positive aspects of living a longer life (Rowe 1997). This new approach challenged long-held notions of what constitutes pathological aging, normal aging, and aging well, and helped create distinctions among these categories.

Other longitudinal studies of aging have made similar and important contributions, examining cognitive outcomes in older veteran men (Spiro, Aldwin, Ward, & Mroczek, 1995), adult development in socially advantaged and inner city men (Vaillant & Mukamal, 2001), personality development in women (Adams, Cartwright, Ostrove, Stewart, & Wink, 1998; Helson, Mitchell, & Moane, 1984; Lippa, Martin, & Friedman, 2000; Stewart, Ostrove, & Helson, 2001), and factors that promote resiliency among the oldest-old (Baltes, Mayer, Helmchen, & Steinhagen-Thiessen, 1993; Baltes & Smith, 1997). Yet Rowe and Kahn (1987; 1997) were the first researchers to distinguish between “usual aging,” characterized by normal decline in physical, social, and cognitive

functioning, and “successful aging,” in which functional loss is minimized. They suggested that three criteria must be met for successful aging: (a) absence of disease, disability and risk factors; (b) maintaining physical and mental functioning; and (c) active engagement with life. Although over the past decade categorizing older adults in this way (i.e., as aging “successfully” or “usually”) has been met with some degree of criticism (Dillaway & Byrnes, 2009; Minkler & Fadem, 2002), the terminology of successful aging and its derivatives (e.g., aging well, productive aging, vitality aging, etc.) continues to permeate the gerontological literature.

Alternate yet complementary theories of successful aging have been proposed, and include maximizing proficiencies and using societal resources to facilitate cognitive functioning (Baltes & Baltes, 1990; Baltes, 1997; Riley & Riley, 1994). Baltes and Baltes’ (1990) selective optimization and compensation (SOC) model, for example, focuses on factors that contribute to successful development across the lifespan. Through behavioral and cognitive strategies, gains can be maximized and losses that traditionally accompany aging can be minimized (Baltes & Carstensen, 1996). Although the SOC process is not limited to gains and losses associated with aging, it is commonly applied to this domain and regarded as a nuanced way of describing how successful outcomes in old age can occur. Selective optimization and compensation is one theory that attempts to integrate adaptation and behavior in the study of successful aging. It seems plausible that personality and coping strategies may also operate through the SOC process and correlate with the ability to master goals and achieve favorable outcomes with advanced age. Some research has demonstrated that SOC strategies mediate the relationship between personality and performance-based outcomes (Bajor & Baltes, 2003). Other research

suggests that goals and processes by which individuals achieve goals naturally reflect an interactive relationship between the person and mechanisms that regulate motivation, emotion, cognition and behavior (Freund, 2008). Active coping, for instance, has been identified as a mechanism that utilizes SOC strategies by allowing individuals to successfully deal with and manage negative experiences (Ouweland, De Ridder & Bensing, 2007). While understanding personality and the ways in which individuals handle life experiences can be useful in deconstructing the ‘person in context’ across the lifespan, most models of successful aging have not incorporated elements of general theories of personality development. Integration across these theories of aging might further our understanding of the dynamics associated with the aging process. As Baltes and Baltes (1990) note, an interesting and “still uncharted challenge” is to link metatheories of successful aging to other perspectives on development such as Piaget or Erikson.

Vaillant’s (2002; Vaillant & Mukamal, 2001) longitudinal studies of aging provide one exception to this pattern. Vaillant integrated Erikson’s developmental stages in his longitudinal study of Harvard students and inner city counterparts. He found that during midlife, men in his studies tended to shift their energies from work toward community service and expressed an interest in passing on something of value, either to their children or to younger coworkers. This notion of generativity, as defined by Erikson (1950), became a recurring theme in Vaillant’s work on aging well; his approach supports an integrated framework where personality development offers a useful perspective on the characteristics of successful aging.

Considering factors that affect the lived experience during midlife may broaden our knowledge of developmental processes that are relevant for older age. Thus, understanding how adults age across the lifespan must account both for individual development as well as individual interaction with the environment and a general social context. In this dissertation I assume a critical perspective to successful aging. Therefore, I first seek to understand the meaning of successful aging, as it is defined in the literature. I further discuss criticisms that have been raised about the definitions of successful aging, because the ways in which we describe any processes can have consequences for what we find. Finally, successful aging is operationalized as a dependent variable to enable me to examine potential relationships with developmental indicators, personal resources and stress in three separate studies.

This dissertation research adds several contextual elements absent from the current successful aging literature. The first two studies, designed to examine personality correlates of successful aging, had dual aims. I first used Erik Erikson's (1950) theory of adult personality development to assess the correlational relationship between generativity and successful aging. At the same time, I assessed the relationship between concern about aging and successful aging, based upon previous research that indicates that anxiety and worry impede health. The third study explored how stress and personal resources that emphasize human strengths, such as self-efficacy, influence subjective health and successful aging. The transition from examining successful aging outcomes in Studies 1 and 2 to exploring relationships between stress, successful aging and subjective health in Study 3 is relevant to linking successful aging research with the broader question of disparities in health among different groups of people as they age. Health

disparities-- that is, inequalities in health outcomes that persist between groups over time-- span gender, race-ethnicity and socioeconomic position, and are found for nearly all diseases. The question of why some people appear more resilient to disease and decline in older age (presumably the successfully aging) than others may depend upon differences in personal resources, such as having strong confidence in one's abilities to overcome obstacles or developing effective coping and defense strategies. Therefore, in addition to maintaining good health, psychological approaches that focus on whether individuals are hopeful and optimistic are useful. Perhaps a deep commitment to religion, or confidence in one's capacity to transcend obstacles despite the stresses of life confer important benefits relating to longevity and overall life satisfaction. Reports of stress and the ways in which we cope with stress have been shown to differ across groups and affect later-life outcomes, such as health and longevity (Vaillant, 2002). Therefore, there is a need to examine the indirect mechanisms by which stress affects health, and whether those pathways differ by sociodemographic groups. Identifying correlates and risk factors for optimal aging as well as for disease facilitates our understanding of patterns that create disparities.

Overview of Research Hypotheses

This dissertation research examined personality and psychosocial resources as potential contributors to health and successful aging during the period of transition from midlife to older age. Using a health psychology perspective and converging theoretical approaches, relationships among personality, successful aging and health were assessed in three samples of college-educated women in their sixties. Specifically, the following

research hypotheses were addressed: (1) based on Erikson's (1950) model of personality development and Rowe and Kahn's (1987) notion of successful aging, generativity would be a positive correlate of and predictor of successful aging; (2) based on prior research regarding worry and negative health outcomes, concern about aging would be a negative correlate and predictor of successful aging; (3) based on the transactional model of stress and coping, personal resources represented by spirituality and self-efficacy would moderate the relationship between cumulative stress and two outcomes: subjective health and successful aging. Study 1 examined hypotheses one and two in a racially and socioeconomically-diverse sample of college-educated women currently in their early sixties. Study 2 provided a replication of Study 1 in two samples of college-educated women of the same age who are racially homogenous and possess similar class backgrounds. Study 3 tested the stress and coping hypothesis in the first sample of ethnically diverse women. Further analyses assess relationships between all variables by socioeconomic position and race where appropriate. Socioeconomic position, an indicator of social class used in Study 3, represents accumulated socioeconomic resources measured by markers such as current occupation and education, as well as family background (e.g., parental class). Given the separate relationships that have been shown between race and health and socioeconomic status/position and health, I assessed whether relationships differed for respective groups and compared mean reports of stressors, personal resources and health outcomes between older Black¹ and White women, and older women who came from working-class backgrounds and those who did not.

¹ The terms Black and African-American will be used interchangeably, as they are by many women of this generation.

CHAPTER II

LITERATURE REVIEW

Successful Aging

History of Successful Aging

Havighurst (1961) originally described successful aging as “adding life to the years” and “getting satisfaction from life.” These notions were formalized into defining successful aging as having inner feelings of happiness and satisfaction with one's present and past life (Ryff, 1989). The idea of maximizing one's years, or getting the most out of life, evolved into a theory of continuity that suggests that successful aging might be best interpreted as continued participation in activities of middle age, maintaining midlife attitudes and adapting to new roles in order to maintain a positive sense of oneself (Havighurst, 1961). Maddox (1968) and Atchley (1971; 1989) later extended this theory to articulate the theme of active living represented in successful aging models as the notion that older adults should maintain the same activities, social networks and behaviors that they engaged in throughout life. Together, these ideas shaped the current framework of successful aging that emphasizes both productivity and positive health outcomes in older age.

Current Interpretations of Successful Aging

The successful aging construct represents a culmination of biomedical findings and psychosocial research seeking to highlight positive responses to aging, marked by lifestyle choices and the ability to manage one's health. Rowe and Kahn (1987) suggested a distinction be made between “usual aging,” indicated by normal decline in

physical, social, and cognitive functioning with age, and “successful aging,” in which there is little or no age-related decrement in physiological and cognitive functioning. In this approach, three criteria must be met for successful aging: (a) low probability of disease, disability and risk factors; (b) maintaining physical and mental functioning; and (c) active engagement with life. These factors are hypothesized to be hierarchical to some extent. However, while each individual component is important in defining the parameters of successful aging, the combination of all three criteria represents the concept in its fullest sense.

Low probability of disease, disability and risk factors. Rowe and Kahn (1997) maintained that successful aging requires absence of disease, disability and risk factors that may lead to disease. Chronic conditions are associated with ‘usual aging,’ whereas those who age successfully are expected not to be diseased or have many “risk” factors. According to Rowe and Kahn, age-related decline is largely a function of lifestyle, and therefore the authors reject the notion that disease and disability is inevitable with advancing age. Citing data from twin studies, Rowe and Kahn argued that genetic factors predisposing individuals to disease decrease with age; therefore, avoiding chronic illness is possible via behavior and healthy choices.

Rowe and Kahn (1987; 1997) placed a substantial emphasis on disease status for classifying usual and successful agers. As the primary requirement for successful aging, this criterion highlights some of the heterogeneity among older adults by acknowledging that nearly half of the population aged 65 and older is free from major chronic disease (Weiss et al., 2007). However, this percentage shrinks with advancing age, creating a significant divide between individuals who do not have major health problems or declines

throughout older age and those who do; the average 75-year old, for example, has at least three chronic conditions and uses five prescription drugs (Anderson & Smith, 2003).

According to national estimates, life expectancy is increasing. By 2030, the number of older adults aged 65 and older is expected to constitute 20% of the population (Arias, 2003). However, the disproportionate rates of chronic disease are not equally shared among different racial-ethnic, class and gender groups.

The prevalence of disease and disability is expected to increase in coming years, as individuals with chronic conditions are living longer due to medical advances. Yet the proportion of individuals with chronic illnesses differs across demographic groups, as do rates of successful aging. Data from the 2001 National Health Interview Survey (NHIS) indicated that 65% of Blacks aged 65 and older, for example, had hypertension in 2000-2001, compared with 47% of Whites and 49% of Latino-Americans. Blacks also have higher rates of diabetes and cardiovascular disease, compared to Whites, and these health issues are more likely to interfere with daily activities and physical functioning than some others (Anderson & Smith, 2003; Arias & Smith, 2003).

These data indicate that the burden of chronic disease is not equitable among all older adults, and thus research aimed at understanding successful aging should take racial group and socioeconomic status into account. It is likely that a majority of ethnic minorities are excluded from successful aging studies because they fail to meet Rowe and Kahn's criteria (1997). According to the World Health Organization (1946), "health is a state of complete positive physical, mental and social well-being and not merely the absence of disease or infirmity." Therefore, interventions aimed at promoting healthy aging among older adults should consider within-group variability and oversample

minority individuals who *do* meet successful aging criteria to learn more about factors that promote resiliency in these groups. The first study in this dissertation is unusual in that it examined successful aging in an ethnically and socioeconomically diverse group of women, the majority of whom meet successful aging criteria.

Physical and mental functioning. The second component of Rowe and Kahn's successful aging model, maintaining physical and mental functioning, has received considerable attention from psychologists and the medical community. Rowe and Kahn (1997) stated that an essential element of successful aging is retaining cognitive functioning as well as physical performance. Findings from the MacArthur Study of Successful Aging suggested that several factors influence physical and cognitive functioning. Healthy behaviors such as physical activity and participation in social activities conferred protective health benefits and physical functionality in a sample of active volunteers 70-79 years of age (Rowe & Kahn, 1997). These factors, as well as education and self-efficacy, also appear to protect against cognitive decline usually experienced in older age (Depp & Jeste, 2006; Kubzansky, Berkman, Glass, & Seeman, 1998; Peel, McClure, & Bartlett, 2005).

Results from the MacArthur studies also indicated that maintenance of high physical performance, moderate and/or strenuous activity and strong emotional relationships support a high level of physical functioning (Rowe & Kahn, 1997; Unger, McAvay, Bruce, Berkman, & Seeman, 1999). In 2005, national surveys showed that although the number of older adults was increasing, approximately eighty-nine percent of adults aged 65 to 74 indicated that they were without disability, and after age 85 forty percent of the population remained fully functional (United States Census Bureau, 2007).

However, in spite of these national improvements, further research addressing the potential for optimal aging among older adults who suffer from physical constraints is needed. As Scheidt and colleagues (1999) noted, categorizing individuals according to a dichotomy of successful or unsuccessful connotes a ‘fixed standard’ that ignores the redefinition of independence and effective functioning disabled adults may adapt for themselves. According to Minkler and Fadem (2002), individuals with lifelong disabilities may find that their ability to manipulate their environments to function effectively later in life is indeed a ‘successful’ outcome. Actions that prevent an impairment from becoming disabling represent compensatory strategies, and therefore adaptive responses, supporting the notion that selective optimization can be used in determining optimal aging. In this vein, some scholars have recommended a biopsychosocial approach to aging, proposing subjective health and well-being as a criterion of successful aging, suggesting it is possible for disabled individuals, for example, to continue a satisfying life in older age and still perceive themselves as meeting successful aging criteria (Freund & Baltes, 1998; Inui, 2003; Kanning & Schlicht, 2008; Strawbridge, Wallhagen, & Cohen, 2002).

Cognitive functioning was also assessed in the MacArthur Studies by a series of language, memory and spatial ability tests. Cognitive functioning was found to be positively associated with frequency of exercise, level of education and perceived self-efficacy (Rowe & Kahn, 1997). The notion that aging does not necessarily represent cognitive disability and decline is represented in several process models that conceptualize aging as a dynamic balance between gains and losses (Baltes & Baltes,

1990; Bialystok & Craik, 2006; Cabeza, Nyberg, & Park, 2005; Diener & Suh, 1997; Freund, 2008; Kunzman, Little, & Smith, 2000). Baltes and Baltes (1990) noted that while older age may include some functional losses, older individuals can compensate for these losses through optimizing and strengthening remaining proficiencies. In older age, although cognitive ability is thought to be naturally compromised, preservation of skills can be achieved through learning exercises, mental stimulation and optimization of cognitive strategies. Furthermore, selective optimization by involving oneself in certain domains to maximize cognitive strengths has been described as an adaptive developmental tool key to compensating for aging-related decline (Baltes, 1987; Baltes & Baltes, 1990; see Baltes & Carstensen, 1996; Baltes & Smith, 2003, Freund, 2008 for details of SOC model). While a thorough discussion of the SOC model is beyond the scope of this dissertation, it has been used to identify several behavioral, motivational and cognitive processes associated with successful aging (Rowe & Kahn, 1997; Schulz & Heckhausen, 1996; Vance, Moore, & Benz, 2007; Von Dras & Blumenthal, 2000). Reframed as an approach to *optimal aging*, Baltes and Baltes (1990) acknowledged the dynamic interplay between individual aging and changes in social and environmental contexts. These changes and the ability to adapt through SOC processes, for example, may either enhance or limit one's capacity for successful aging.

Because the SOC model is regarded as being a universal process, its application may help reduce cognitive differences between groups that have been noted (Moody-Ayers, Mehta, Lindquist, Sands, & Covinsky, 2005). Disparities in memory performance and cognitive impairment, for instance, have been found in mixed race samples (Buckner, 2004; Freedman, Aykan, & Martin, 2001; 2002; Hedden & Gabrieli, 2004; Moody-Ayers

et al., 2005). The causal factors responsible for these (and presumably other) group differences in brain function have been linked to individual lifestyle, stress and social interaction, and variation in these pathways are patterned in some cases by gender, class and race differences (Fratiglioni, Paillard-Borg, & Winblad, 2004; Kramer & Erickson, 2007). Education, a common proxy for socioeconomic status, has been linked to both cognitive functioning and dementia (Farmer, Kittner, Rae, Bartko, & Regier, 1994; Jorm, Scott, Henderson, & Kay, 1988; Launer, Dinkgreve, Jonker, Hooijer, & Lindeboom, 1993). Community-based studies support these findings; more educated groups have, on average, higher levels of cognitive functioning and lower levels of dementia, even after adjusting for age (Elias, Elias, D'Agostino, Silbershatz, & Wolf, 1997; Fleishman & Lawrence, 2003; Le Carret, Lafont, Mayo, & Fabrigoule, 2003). These findings indicate a positive correlation between education and cognitive functioning, and an inverse relationship of both with dementia. However, rates of dementia have not been shown to decrease with increasing levels of education among African-Americans (Barnes et al., 2005; Barnes et al., 2006). Other racial disparities in cognitive functioning have been found for neurobehavioral tasks and sensory limitations (Freedman, Martin, & Schoeni, 2002; McDougall, Vaughan, Acee, & Becker, 2007). Manly and colleagues (Manly et al., 1999; Manly & Jacobs, 2002) explained some of these relationships by relating macro-level life experiences to micro-level developmental factors. Manly argued that even when racial groups possess the same levels of education, historical segregation and differences in the quality of educational instruction received may contribute to disparate outcomes by race and geographic region.

Other studies have reported gender differences in cognitive evaluations, with women tending to outperform men on tests emphasizing verbal components such as verbal memory or verbal fluency tests, and men performing better on tests requiring visuospatial information processing (Collaer & Hines, 1995; Kramer, Delis, & Daniel, 1988; Reite, Cullum, Stocker, Teale, & Kozora, 1993; Wiederholt et al., 1993). Given these findings, it is worth evaluating how group differences may shape differential potential for successful aging.

Active engagement. The third and final component of successful aging, active engagement with life, encompasses two dimensions; 1) social engagement through networks and social support and 2) productive activity (Rowe and Kahn, 1997). The first dimension is well-supported in the literature; social support, family and social relations are generally found to have a positive relationship with health and well-being (Antonucci, 1985; Cohen & Syme, 1985; Kahn & Antonucci, 1980; Seeman, 2000). The second dimension, however, emphasizes the importance of engaging in “all activities, paid or unpaid, that create goods or services of value” (Rowe & Kahn, 1997). Defining an aspect of successful aging in part by engagement in paid work automatically marginalizes groups of people whose experience in the labor market might have been inconsistent or limited (e.g., women, low-income adults, disabled persons, people of color; Denton & Boos, 2007; Holstein, 1999; Minkler & Fadem, 2002). On the other hand, certain activities considered to be productive but that are unpaid (e.g., informal caregiving) may or may not confer positive outcomes in older age. Although some studies associate volunteering, employment after retirement, and other types of engagement in later life with improved well-being, the majority of this research is based

on within-time comparisons and is documented in wealthy and educated groups who occupy a high socioeconomic position (Camp, Orsulic-Jeras, Lee, & Judge, 2005; Fisher & Schaffer, 1993; Moen, Dempster-McClain, & Williams, 1992; Musick, Herzog, & House, 1999; see Morrow-Howell, Hinterlong, Rozario, & Tang, 2003 and Musick & Wilson, 2003 for reviews of this literature). Furthermore, the literature pertaining to unpaid productive activity primarily focuses on formal volunteering and civic participation; there is little information about how these behaviors might be expressed differently by diverse groups. Further, some activities, such as hobbies, are rarely examined in studies of engagement although research indicates that enjoying hobbies may relieve stress and increase quality of life. Reports suggest that having general hobbies improves artery function and reduces cardiovascular risk (Saihara, et al., 2010). These findings are particularly strong for yoga and meditation programs, outdoor hobbies and attending cultural events (Konlaan, Bygren, & Johansson, 2000; Takahashi & Matsushita, 2006).

Martinson and Minkler (2006) argued that a lack of clarity regarding types of engagement and their effects in older age makes it difficult to determine who benefits from these activities and how active engagement might influence health. Increasingly, older adults become actively engaged in their communities in part because of the purported benefits of community involvement in promoting better health and well-being. Further research is warranted in the literature regarding groups that choose not to be actively engaged or might be hindered from engaging fully in life for various reasons. For example, Minkler and Fadem (2002) suggested that successful aging research using traditional measures of social engagement may not adequately represent the lives of

disabled older adults. Therefore, the productive aging movement and the associated literature may devalue these individuals and deem their aging process as “unproductive.” These judgments call into question precisely what is meant by aging well in later life (Holstein, 1999; Martinson & Minkler, 2006). While advocates of the continuity theory assert that activities in older age tied to past experiences are a marker of the aging process as well as a positive contributor to health (Conner, Dorfman, & Thompkins, 1985; Fisher & Schaffer, 1993; Herzog & Morgan, 1993; Okun, 1993; Thoits & Hewitt, 2001), this prerequisite for successful aging has been criticized as neglecting to acknowledge the influence of society and social institutions in affecting an individual’s level of engagement (Martinson & Minkler, 2006; Quadagno, 2007).

Besides the broad issues associated with defining successful aging in part by level of engagement, remaining active in later life may hold different meanings across groups (Cole, 1992; Cole, Zucker, & Ostrove, 1998). Katz (2000) and Cruikshank (2003) argued, for example, that the connection between activity and well-being in old age promotes a culture of ‘prescribed busyness’ specific to a Western perspective, seldom questioned in the gerontological literature. The tendency for older adults to stay busy in order to achieve a sense of “worth and mental competence” reflects a certain cultural ideology that rejects or ignores the value of leisure and social roles that may be appropriate to later life (Cruikshank, 2003). For example, Biggs (2001) noted that a strong emphasis on community engagement and active aging devalues, and in some cases contradicts, other personal experiences meaningful in later life. Biggs stated that “...interpretations of the life tasks of maturity that emphasize other potentialities surrounding aging—spirituality (Howse, 1999), gero-transcendence (Tornstam, 1996),

‘the well-earned rest’ and contemplation through ‘coming to terms with oneself’—may not be compatible with an active/positive narrative of productive aging.” Similarly, Holstein (1999) suggested that cultural messages that ignore the significance of these experiences may thwart, or at the very least complicate, the ability of some individuals with limited physical mobility to find purpose in later life. In addition to assuming certain individuals cannot embrace all the possibilities of the aging process, notions like productive and successful aging may limit what gerontologists and society can learn about later life experiences and contribute to a less respectful view of older people (Martinson & Minkler, 2006). It is important to examine the growing claims of such efforts as they relate to health and empowerment among older adults.

In general, population health estimates project a future aging population that will grow in number, but experience fewer disabilities. The question remains, however, whether all older adults have the same opportunities to achieve successful aging according to the present definition. Several disparities for each criterion have been noted. Therefore, due to existing inequities in health and functioning and narrow cutpoints for inclusion, many people will be excluded from studies aimed at examining successful aging because they fail to meet one or more requirement.

Much variation is expected to emerge among older adults who live until a certain age. African-Americans and those with the least education, for example, have the greatest incidence of chronic illness, disability and limitation among the oldest-old (Ciol et al., 2008; Freedman & Martin, 1999; Manton & Gu, 2001). Schoeni and colleagues (2005) indicated that minorities and socioeconomically disadvantaged groups are approximately three times as likely to experience physical and/or cognitive disability,

compared to other groups in older age, suggesting the need for additional attention to the racial identification and class orientation of adults who fail to meet successful aging criteria. While Rowe and Kahn presented one model of successful aging, it is possible that the standard it proposes should be revised to account for alternative means of describing successful outcomes (e.g., subjective evaluations) that may be considered equally important in understanding positive adaptation to aging. Ultimately, all older adults should have an equal opportunity to age well, and their ‘success’ should not be measured according to rigid criteria, but instead in terms of their ability to overcome and withstand the challenges of aging. Several criticisms of the successful aging framework represented in the literature will be briefly described and discussed here, with specific attention given to two important domains that are not part of the current model: elements of personality and social context.

Criticisms of the Notion of Successful Aging

The successful aging paradigm has been criticized for several implicit assumptions. As noted earlier, this framework fails to address the gendered, racial-ethnic and socioeconomic variation of aging groups and categorizes all individuals according to a normative dichotomous standard that treats aging well as a fixed endpoint (Dillaway & Byrnes, 2009; Pearlin & Skaff, 1996). Dillaway and Byrnes (2009) challenged the assumption that older adults who are most healthy and live the longest should provide a basic standard for evaluating aging outcomes. All individuals do not reach older age possessing the same resources, genetic predispositions and experiences that may allow for ‘successful aging’; thus individual and within-group variability is not sufficiently considered by the model. Furthermore, the criteria defining successful aging imply that

the declines associated with aging can be avoided entirely, when even if all criteria are satisfied, the process is slowed at best (Dillaway & Byrnes, 2009; Masoro, 2001).

Secondly, Rowe and Kahn's model of successful aging heavily emphasized factors related to lifestyle and individual choice. The authors stated, "...successful aging is dependent upon individual choices and behaviors. It can be attained through individual choice and effort...we were trying to pinpoint the many factors that conspire to put one octogenarian on cross-country skis and another in a wheelchair" (Rowe & Kahn, 1997). Those advocating the new gerontology assert that individuals need to modify lifestyle behaviors to avoid the decrements associated with aging. However, as Meyer (1989) notes, autonomous choices regarding our health must be accompanied by the ability to access resources to execute individual control. These resources may not be readily or equally available to all groups. Exercising choice to modify behaviors or lifestyle factors may be a matter of "autonomy competence" in some social and economic situations. In other words, the ability of individuals to make certain decisions that may affect health and wellness are often constructed by class in terms of differential access to goods and services (Tate, Lah, & Cuddy, 2003; Torres, 2002). Hence the ability to make sound, competent, lifestyle options – specifically in terms of nutrition and exercise – as well as the tendency to engage in certain risky behaviors, is related to extrinsic structural and societal forces as well as intrinsic motivations. There is a tacit implication in the successful aging model that one either chooses options that promote better outcomes in later life or makes decisions resulting in a usual, pathological or diseased aging profile (Rowe & Kahn, 1987). These implications strongly suggest individual responsibility for one's health and well-being (Masoro, 2001). From a policy standpoint, these approaches

suggest that people who take appropriate measures to be healthy as young adults and during middle age will not consume costly societal resources in older age. In fact, the opposite is true; adopting a healthy lifestyle, while positive for the individual, is likely to increase life expectancies and successfully aging older adults will ultimately consume far more resources (by living longer and utilizing the health care system more frequently) than a person who ages ‘normally’ (Dillaway & Byrnes, 2009; Masoro, 2001).

It is also presumed that healthy older adults take precautions to remain free of major disease, fulfill a productive and active role, and have more positive effects on society than those who withdraw from social interaction and accept a less-busy life of rest and reflection. An adult who, for example, accepts the latter role appears to have no useful role in society, according to successful aging theories (Cruikshank, 2003). It is worth noting, however, that decisions regarding whether to remain actively engaged in pursuing goals (or society in general) may be a function of personal preference or social factors (e.g., lack of strong social ties and networks) (Friedman, Hawley & Tucker, 1994; Kirkcaldy & Furnham, 1991; Wilson, et al., 2005). The process of accepting losses and disengaging from goals that can no longer be pursued in old age has been emphasized in other research (Schulz & Heckhausen, 1996) and findings from several studies suggest disengagement is often necessary in order to regulate negative emotions in later life, to remain satisfied with one's performance (Rothermund & Brandtstädter, 2003a) and to avoid depression in later life (Rothermund & Brandtstädter, 2003b). Carstensen (1992) proposed that in interpersonal relationships, because older people are focused on the “here and now” they relinquish some peripheral relationships in favor of those that provide them with the most significant rewards. Hence, creating smaller social networks

may not reflect decline, but rather a shift in emphasis to particularly important people in their lives. Several narrative accounts note that accepting becoming older includes embracing significant relationships and cherishing the journey of aging. Other research has found that declaring oneself as “old” is an act of resistance that some find useful in defining themselves (e.g., “going gray”) in older age (Calasanti & Slevin, 2001; Gullette, 1997; Katz, 2000).

Finally, the criteria proposed by Rowe and Kahn are viewed as normative and influenced by Western societies' ideals of aging (Katz & Marshall, 2004; Scheidt et al., 1999; Tornstam, 1992; Torres, 1999). In addition to being culturally and historically specific, the current standard of successful aging is devoid of context pertaining to gender, race-ethnicity, socioeconomic position and interlocking systems of inequality (Dressel, Minkler, & Yen, 1999; Stoller & Gibson, 2000). Limited research shows that the prevalence of successful aging differs according to subgroup (Herzog & Wallace, 1997; Strawbridge et al., 2002;). Yet few studies have examined the nuances of successful aging within or across groups, or analyzed the limitations of the successful aging model in terms of its significance for women, minorities, the socioeconomically disadvantaged or society as a whole.

The criteria that define the successful aging framework apply to a narrow and often privileged segment of the older population. Given the increase in chronic disease prevalence, entering older age disease-free is unrealistic for most (Freedman et al., 2001; Freedman, Martin, & Schoeni, 2002; Manton & Gu, 2001). Rowe and Kahn's model described an outcome, rather than a process of aging. As a result of these fixed criteria, the model did not consider the possibility of alternative patterns of successful aging

(Baltes & Carstensen, 1996; Scheidt et al., 1999; Tate et al., 2003). Further, although researchers agree that successful aging involves multiple components (e.g., physical and mental health, cognitive functioning, well-being), there is little consensus regarding how the construct should be operationalized in practice. As a result, wide variability exists concerning definitions of successful aging and many older adults fail to meet the criteria when assessed by objective measures (e.g., lack of disease, physical functioning). Strawbridge and colleagues (2002) found that although half of elderly people perceive themselves to have aged successfully in terms of their personal criteria, fewer than a fifth could be so categorized with Rowe and Kahn's traditional model (see also Phelan, Anderson, LaCroix, & Larson, 2004 for a similar study). Similarly, it has been suggested that one's subjective experience of well-being and relative happiness is of equal value to objective criteria (Reichstadt, Depp, Palinkas, Folsom, & Jeste, 2007; Ryff, 1989), and these subjective evaluations may vary by race-ethnicity. Black elders, in particular, are 3.8 times less likely to rate their health as positive when asked about their overall health, compared to White participants of the same age (Spencer et al., 2009). These qualitative differences in the meanings ascribed to aging well or what it means to be healthy may indicate true differences or perceived disparities in standards of health. Because positive outlook and a positive aging experience have been linked to longer life expectancy, these issues are central to understanding the applicability of successful aging in different groups. Yet these and other contextual factors have been largely ignored by the current model. Despite these reservations, however, the theory of successful aging does provide a useful framework for interpreting positive outcomes in old age. Rowe and Kahn

acknowledged, at least to some extent, that human development and aging is heterogeneous and that aging is not exclusively represented by decline and morbidity.

This research aimed to understand successful aging as a process; therefore, this dissertation focused on late-midlife development and life experiences in three samples of women who were beginning to enter older age. Although considered to be a critical period, the relevance of midlife precursors to successful aging has not been fully examined.

Personality Development at Midlife and Successful Aging

Several lines of research have shaped the growing literature dedicated to understanding the links between personality and successful aging. Although the theoretical framework for successful aging is a relatively recent development, early empirical research by personality and developmental psychologists focused on well-being, happiness and positive affect as markers of successful aging (George, 1979; Herzog, Rodgers, & Woodworth, 1982; Lawton, 1984; Palmore, 1968; 1979; Ryff, 1989; Stock, Okun, & Benin, 1986). These psychologists suggested that later life could be a time that includes positive feelings as opposed to disability, decline and depression. Some research has examined the stability of personality traits over the life course (Caspi, Roberts, & Shiner, 2005; Herbst, McCrae, Costa, Feaganes, & Siegler, 2000; Jones & Meredith, 1996; Mroczek, Spiro, Almeida, & Pafford, 2006; Pervin & John, 1999), the relationship between personality traits and health (Friedman & Booth-Kewley, 1987; Goodman & Friedman, 2006) and emotional regulation (Charles, Mather, Carstensen, 2003; Charles, Reynolds, & Gatz, 2001; Labouvie-Vief, 2003; Mather & Carstensen,

2003; 2005). Although important, these dimensions of personality do not include a focus on feelings experienced in old age, or the psychological maturity of the older person. Questions related to self-reflection and accomplishment such as “If I could turn back the clock, would I do anything differently?” or “How can I ‘give back’ to the next generation?” reflect a specific perspective perhaps best captured by Erik Erikson’s theory of development.

Erikson’s (1963) model of psychosocial development spans the life course and is comprised of eight stages. Each stage is characterized by a defining issue or crisis and builds on preceding stages. Successful resolution of crises entails confronting and mastering a challenge to develop a new personal capacity (e.g., trust, industry, identity, etc.) within each life stage. Concerns that dominate earlier stages are replaced by new concerns and tasks, and these feelings are generally viewed as part of the individual and representative of personal commitments (McAdams, de St. Aubin, & Logan, 1993; Sheldon & Kasser, 2001). Therefore, successfully confronting and mastering concerns and challenges marks psychological progression and growth in maturity.

Generativity and Successful Aging

Erikson’s seventh stage of development, generativity versus stagnation, is generally associated with middle age. Generativity implies a focus on developing and maintaining resources for future generations (Erikson, 1980; Erikson, Erikson, & Kivnick, 1986; Ryff & Migdal, 1984). Caring for others, particularly older individuals caring for and cultivating younger people, is a hallmark of this stage (Peterson, 2002). The desire to pass on a legacy that extends beyond the self is an indicator of generativity, and is often expressed in social roles such as parenting, mentoring, teaching and/or

volunteering (McAdams, Hart, & Maruna, 1998; McAdams & Logan, 2004). Failure to navigate this stage may be evidenced by lack of interest in contributing to the welfare of others, preoccupation with one's own needs, self-absorption and overall decreased participation in caring roles (Stewart & Ostrove, 1998).

Evidence suggests that generative activity and engagement benefits health (Vaillant, 2004). Accomplishing developmental tasks in later life, particularly those related to passing along legacies or giving back to future generations, may be seen as positive contributors to psychological well-being. Fried and colleagues (1997) suggested that generativity and generative acts benefit the individual as well as the greater community and create a sense of satisfaction with life's work. Other studies have consistently noted positive relationships between various aspects of generativity (e.g., generative concern, generative behavior) and subjective well-being (Ackerman, Zuroff, & Moskowitz, 2000; de St. Aubin & McAdams, 1995; Keyes & Ryff, 1998; Peterson, Smirles, & Wentworth, 1997; Stewart et al., 2001; Vaillant, 2004). Warburton, McLaughlin and Pinsker (2006) explored the relationship between generativity and successful aging through qualitative research and found that generativity benefits both individuals and their surrounding community if it is transformed into prosocial behaviors. Respondents from the study indicated that having their lives enriched by generative behaviors in turn led them to develop a positive outlook on aging. Thus, having a generative consciousness and performing generative acts may relate to positive ideals regarding the ability to age well. In an earlier study, Vaillant (1993) reported that women who mastered or achieved generativity at age 60 were more likely to show better

adaptation to old age than those who had not achieved generativity. Taken together, these findings support the notion that generativity should be related to successful aging.

Due to its emphasis on activity and productivity, it is likely that generativity would be positively associated with traditional indices of successful aging. Research shows that self-reports of generative concern are related to happiness, life satisfaction, and self-esteem (Ackerman et al., 2000; de St. Aubin & McAdams, 1995; Peterson et al., 1997). Similarly, Ryff (1989) suggested that achieving and maintaining a “sense of purpose” is needed for successful aging. In a qualitative study where older adults were asked to describe what successful aging meant to them, Fisher (1995) found that half of the respondents mentioned making a contribution or possessing a sense of purpose as important to successful aging. Therefore, having goals for the future and ‘giving back’ in this way related both to successful aging and generative acts. Generativity may also be relevant to successful aging because of its associations with physical activity, productive involvement and health (Baltes, Smith, & Staudinger, 1992; Kotre, 1984; McAdams & de St. Aubin, 1992; McAdams et al., 1993; Peterson & Duncan, 2007; Slater, 2003). Recent research has indicated that midlife generativity is correlated with positive personality characteristics and life satisfaction, and negatively associated with aging concerns (Peterson & Duncan, 2007; Stewart et al., 2001). Yet, to our knowledge, generativity has not yet been examined as a correlate of successful aging.

Concerns about Aging and Successful Aging

Challenges, concerns and anxieties about the transition from midlife to older age may stem from the idea that unresolved conflict experienced during middle age can persist through the second half of adulthood. Midlife development has been addressed by

several models, perhaps most notably in terms of the concept of a 'midlife crisis'. While middle age has often been described as a time of peak functioning, responsibility and stability (Neugarten, 1968), opposing theorists argue that serious problems and mental health crises can arise during this period as a function of physical and social changes in life that may worsen, or at the very least, remain stable through older age (Jacques, 1965; Oldham & Liebert, 1989). Although some research has shown these findings to be inconsistent and not generalizable to the population (Brim, Ryff, & Kessler, 2004), the idea that late-midlife is marked by turmoil and anxiety persists. Images and myths about older age may be fostered throughout midlife and center on two primary themes. First, preoccupation with remaining tasks, future goals and accomplishments may create anxiety about the time one has left to complete these tasks. Studies have found significant relationships between chronological age, future time perspective and goal selection, suggesting that when time is perceived to be limited, meaningful goals become prioritized and more salient (Carstensen, Isaacowitz, & Charles, 1999; Lang & Carstensen, 2002). Thus, a perception that one may be unable to attain goals may lead to excessive worry, anxiety and stress about failure to complete tasks due to the feeling that 'time is running out.' Second, many people associate the beginning of old age with negative characteristics, such as declining health, changes in physical appearance, and death (Barrett & Robbins, 2008; Benton, Christopher, & Walter, 2007). Therefore, the inevitable process of aging may provoke anxiety and stress in individuals who wish to avoid these outcomes.

Research has indicated that women may experience more aging anxiety than men (Cummings, Kropf, & DeWeaver, 2000). Little is known about gender-specific

antecedents or correlates of aging anxiety; however, it is often speculated that women experience increased concerns related to perceived loss of physical attractiveness, health and lessened value associated with loss of fertility in older age (see, e.g., Barrett & Robbins, 2008). Some studies have linked worries about getting older to dietary habits and body image (Bedford & Johnson, 2006; Lewis & Cachelin, 2001; Montepare, 1996; Yahnke, 2004). Preoccupations with becoming old may be especially salient for women in the United States due to a Western emphasis on women's youthfulness (Unger & Crawford, 1996). At the same time, Zucker, Ostrove and Stewart (2002) found that women in their sixties expressed more concern about aging on average than women in their forties and twenties. Thus, it is expected that worries or concerns about growing older increase from middle age onward, as there is a shift from the perception of one's own life in terms of 'time since birth' towards 'time left to live' (Brooks-Gunn & Kirsh 1984; Neugarten, 1968). Preoccupations with aging, death and fading physical attraction are associated with lower well-being, particularly during middle-adulthood (Klemmack & Roff, 1984). Ryff (1989) argues that individuals not focused on the negative physical and psychological process of aging generally fare better at midlife than those who are particularly anxious or worried about growing older.

When paired with preoccupations with death, disability and mortality, worries about getting old can be detrimental. As suggested by Torges and colleagues (2008b) and others (Wrosch, Bauer, & Scheier, 2005), if a person fails to find meaning in their lives or sees their lived experiences as a series of missed opportunities they may experience more regret, increased concern about aging, and a lower likelihood of

achieving successful aging. Therefore, I expected that aging concern would increase over time, and would be inversely associated with successful aging both within and over time.

Personality as a Moderator of the Relationship between Stress and Health

One goal of this dissertation research was to examine how resources that are hypothesized to facilitate coping with life experiences may moderate the relationship between stress and health, thereby influencing the way one might successfully age. Coping is a multidimensional process with continuous exchange between the person and environment (Folkman & Lazarus, 1980; 1986; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus & Folkman, 1984). The dynamic between stress and health is often represented by models emphasizing the importance of appraisal and coping strategies in responding to stressful events. These models suggest that those who develop greater resources in order to navigate stressors may indeed fare better in terms of health outcomes. Therefore, at its core, successful aging may refer to the resilience of people who succeed in minimizing or managing stress, and achieve a positive balance between gains and losses during aging. As such, older adults are not only coping with the unique challenges relating to aging; they continue to develop successful strategies to cope with the usual challenges of life.

Stress and Coping

From a transactional perspective, stress and coping with stressful stimuli are thought to affect physiological mechanisms such as immune processes and metabolism, thereby enhancing or hindering disease progression (Lazarus & Folkman, 1984). Stressors are demands made by the internal or external environment. These demands

initiate a ‘flight or fight’ response by the body’s regulatory hypothalamic-pituitary axis (HPA). Subsequent actions involve the elevation of blood pressure and secretion of stress hormones and cytokines (Selye, 1950). Allostasis refers to the body’s ability to achieve stability from stress responses through the autonomic nervous system, HPA axis and defense systems. The normal response to stress is thought to provide an individual with compensatory abilities to meet the demands of stressors; however, over time repeated exposure to stressors may affect physical and psychological well-being (Lazarus & Cohen, 1977). The cost of accommodating repeated and continual stress is described as allostatic load (McEwen, 2005). Research suggests that the cumulative effect of poor coping strategies and experiencing multiple stressors over the life course may be particularly deleterious (Robles & Kiecolt-Glaser, 2003; Vaillant & Mukamal, 2003).

The Transactional Model of Stress and Coping (Folkman & Lazarus, 1980; 1988) is a widely-used framework for evaluating the processes of coping with stressful events. Stressful experiences are construed as adaptational person-environment transactions. These transactions depend on the impact of the external stressor and the individual’s ability to manage the stressor. Therefore, the stressor-response exchange is mediated first by the person’s appraisal of the stressor and second by the social and emotional resources at his or her disposal (Antonovsky, 1979; Antonovsky & Kats, 1967; Lazarus & Cohen, 1977). Older adults are especially vulnerable to stress-related conditions, as they have had a longer life and thus more time to experience chronic stressors and they are also more likely to have existing conditions that may be exacerbated by stress (House, 1981; 1992). Furthermore, the ability to meet the demands of repeated stressors may be compromised in older age. While the current study did not directly measure coping per

se, the research presented did examine factors that may contribute to positive coping strategies and also promote self-confidence in one's ability to overcome stressful situations.

Stress mechanisms. Hyperactivity of the HPA-axis, created by repeated exposures to stressors, can cause excessive secretion of stress hormones that leads to increased production of insulin, hyperlipidemia, hypercholesterolemia, and hypertension (Bjorntorp, 1997; McEwen & Stellar, 1993; Pollitt et al., 2005; Tsigos & Chrousos, 2002). Several studies detail a mechanistic process of HPA-axis disruption in the presence of repeated psychological stressors where key hormones, such as cortisol, are overactivated and yield a series of biological effects such as increase in blood pressure and triglycerides (Epel et al., 2000; Landen et al., 2004; McEwen & Stellar, 1993; Pope & Smith, 1991). These actions may be exacerbated by chronic stress reactions over time, dietary intake, or hormonal imbalance.

Chronic and frequent exposure to stress over time is believed to lead to “wear and tear” that contributes to allostatic load (McEwen, 1998). In a study of older men and women, Seeman and colleagues (2001) found higher levels of allostatic load were associated with a greater likelihood of mortality. Allostatic imbalance was also independently related to physical health decline. In previous studies, allostatic load was found to be inversely related to measures of social support and social integration and positively associated with cumulative economic disadvantage across the life course, suggesting that stress-related illnesses may be a function of social activity and socioeconomic position (Antonovsky, 1979; Cobb, 1976; Seeman, Singer, Ryff, Dienberg Love, & Levy-Storm, 2002).

The wear and tear of stress over time can present itself through physical and mental health symptoms. Cumulative stress may be the result of a series of negative life events or exposure to stressful situations. In the current study, two potential stressors were examined: discriminatory hassles and caregiving. Both were hypothesized to operate through the physiological mechanisms described and perhaps through emotional processes where the burden of stressful experiences may lead to depression and other negative affective conditions. Stressful life events have been significantly associated with poor health outcomes, particularly in older adults (Cohen, Teresi, & Holmes, 1985; Kraaij & DeWilde, 2001). However, the effects of some stressors can be moderated by personal resources (Dohrenwend & Dohrenwend, 1978; Pearlin & Skaff, 1996). Chadiha and colleagues (2004), for example, argued that promoting self-empowerment may be an effective intervention strategy for countering the vulnerability and stress burden experienced by African-American women who provide care to others. Similar studies have found that characteristics such as powerlessness and anger are likely to accompany stressful encounters and may be especially felt by members of minority groups (Thomas & Gonzalez-Prendes, 2009). Therefore, it may be important to evaluate the direct and indirect effects of potential stressors and personal resources in adults at midlife, and whether the effects differ by sociodemographic groups.

Personal resources for coping with stress. Past research has shown that measures of individual capacity, such as self-efficacy (Suls & Fletcher, 1985) and religiosity/spirituality (Lawler and Younger, 2002; Miller & Thoresen, 2003; Powell, Shahabi, & Thorensen, 2003; Seeman, Dubin, & Seeman, 2003), have direct effects on psychological and mental health outcomes as well as successful aging (McCann-

Mortimer, Ward, and Winefield, 2008; Wink, Dillon, & Prettyman, 2007). The positive effect of religiosity/spirituality on health is thought to operate through several potential paths. Religious participation may, for example, encourage better health habits such as limiting consumption of alcohol and banning the use of tobacco products (Seybold, 2007). In addition, many religious organizations teach or support a philosophy that the body should be respected and cared for which could also support a healthier lifestyle, a regular exercise regimen, and a more nutritious diet. Beyond public displays of spirituality, private prayer and optimism have also been shown to be particularly useful in coping with severe health difficulties and terminal illnesses (Ai, Ladd, Peterson, Cook, Shearer, & Koenig, 2010; Ai, Peterson, Tice, Huang, Rodgers, & Bolling, 2007; Ironson & Hayward, 2008).

In a review of nearly a hundred studies examining the relationship between religiosity/spirituality and mortality, results showed that religiosity/spirituality was associated with reduced mortality in healthy adults, but not in diseased populations. This protective effect was independent of several factors including smoking, drinking, exercise, social support, negative affect and socioeconomic status (Chida, Steptoe, & Powell, 2009). Among the numerous ways religiosity/spirituality is measured, church attendance was found to be positively associated with greater survival and negatively associated with cardiovascular mortality in healthy population studies. Multiple sources of social support gained through church attendance and participating in church activities may mediate the 'religiosity/spirituality – health' relationship (Chatters, Taylor, Lincoln, & Jackson, 2008; Uchino, 2006). Additional mediators that are hypothesized to be

associated with this relationship, although not well understood, are various psychosocial resources such as self-esteem and self-efficacy.

Self-efficacy alone has been found to have beneficial health effects, presumably through sociocognitive self-regulating mechanisms that influence decision-making and health habits. According to theory, self-regulation refers to “processes that are internal and/or transactional...that enable individuals to guide goal-directed activities” (both over time and cross-sectionally) (Karoly, 1993). In an effort to connect these processes to explaining behavior, Bandura (2001) hypothesized a multifaceted model in which self-efficacy beliefs operated together with goals, outcome expectations, and environmental factors to regulate human motivation, behavior, and well-being. Belief in one's efficacy to exercise control is now understood to be a common pathway through which psychosocial influences affect health functioning. This central belief presumably affects each of the basic processes of personal change, including whether people consider changing their health habits, whether they mobilize the motivation and perseverance needed to succeed should they do so, their ability to recover from setbacks and relapses, and how well they maintain the habit changes they have achieved.

Overall positive affect may also facilitate protective effects in behavioral and biological processes. Recent evidence has shown marked associations between positive psychological states and health outcomes such as decreased cardiovascular disease risk and increased immune resistance to infection (Steptoe, Dockray, & Wardle, 2009). At the same time, positive affect is associated with protective psychosocial factors such as greater social connectedness, perceived social support, optimism, and preference for adaptive coping responses (Aspinwall & Tedeschi, 2010). Therefore, positive affect may

be part of a broader profile of psychosocial resilience that reduces risk of adverse physical health outcomes.

In sum, feelings about oneself, one's abilities, and the environment are individual factors that might affect appraisals of stress and subsequent coping behaviors. However, we do not know how characteristics of individuals or situations might differentially modify the effects of stress on health. For example, while factors such as dispositional optimism could enhance adaptive capacities, coping styles such as denial, repression, and neuroticism might provide short-term relief but have longer term negative effects on health. Similarly, resources such as feelings of power over one's situation or valuing some religious/spiritual experience as important could enhance an individual's capacity to cope and respond to stressful experiences. Therefore, attention should be given to the impact of moderating variables.

Although a considerable body of research now assesses associations between personality and health, much of it is based on mechanistic accounts of how traits influence thoughts, feelings, and behavior (Mischel & Shoda, 1998). What is missing from this approach is a thorough discussion of the ways individual personality, the environment and behavior interact. Life changes and the ways in which those changes are processed by the individual (e.g., belief systems, perceived level of control, perceived sense of coping competence) have potential relevance for well-being and may moderate the association between personality and health at all ages, or differently at different ages.

Within-group Heterogeneity and Health Outcomes

Sociocultural context is important in interpreting lifestyle and behavioral changes contributing to health outcomes that occur in late adulthood. The ability to navigate life stresses and balance the transitional demands associated with growing older may be related to life experiences that have been shaped as a function of group membership. According to Geronimus (1992), class and race are often inextricably linked, but both are independently relevant to life experiences and women's life expectancy. Geronimus proposed a 'weathering hypothesis' suggesting that African-American women experience premature morbidity and mortality and early health decline as a result of cumulative and repeated stressful encounters related to exclusion across the life course, including negative and discriminatory social, economic, or political experiences (Geronimus, 2001). This hypothesis was tested in a study by Rich-Edwards and colleagues (2003), who examined the associations between maternal age and birth outcomes for Black and White mothers. The authors found both class and race to predict low-birthweight disparities between Black and White mothers. Although women's health disparities are greater and most prevalent during young and middle adulthood (childbearing years), Geronimus argued that from birth to premature death excessive levels of chronic illness are widespread among African-American women, *regardless* of socioeconomic position. The weathering hypothesis specifically addressed aspects of intersectional health inequalities, contrary to developmental models or theories that focus on the role of poverty or individual behaviors alone (Geronimus 2001; Geronimus, Bound, Waidmann, Colen, & Steffick, 2001).

The weathering paradigm, coupled with the notion of intersectionality (Crenshaw, 1989; 1991; King, 1988), may be particularly useful in understanding whether the racial inequalities in health that exist for women in general also hold for older, upwardly mobile groups as well. The intersectional construct maintains that the consequences associated with the combination of two or more hierarchies or axes of power (e.g., race, gender, class, age, etc.) may interact on multiple, and possibly simultaneous levels, to create systematic social inequalities (Anderson & Collins, 1995; Crenshaw, 1991). Therefore, the propensity for converging identities (such as race and age or socioeconomic position and age), and the accompanying effects, to either empower or further marginalize certain groups should be considered in analyses of successful aging and health disparities. The weathering hypothesis accounts for structural influences that contribute to premature aging in certain groups across the lifespan. Yet studies that have confirmed these findings are often geared towards urban, severely disadvantaged groups (those representing low status on three dimensions of historical oppression – class, race and gender) (Dannefer, 2003; Mullings, 2005; Rich-Edwards, Buka, Brennan, & Earls, 2003; Robles & Kiecolt-Glaser, 2003; Warren-Findlow, 2006).

According to Geronimus' theory, weathering can affect health outcomes in two ways. The primary pathway through which weathering occurs is “persistent psychosocial stress” (Geronimus, 2001). Examples of persistent stress burden might include excessive family and kin obligations, occupying multiple roles, frequent socioeconomic crises and perceived discrimination. A second weathering mechanism is exposure to social or environmental hazards in residential or work surroundings (e.g., crime or pollution) (Sampson, Morenoff, & Gannon-Rowley, 2002; Schulz, Parker, Israel, & Fisher, 2001;

Williams & Collins, 2001). Geronimus contended that the appraisal of such hazards and other potential stressors is important in contextualizing health effects (Geronimus, 2001; Warren-Findlow, 2006). Vaillant and Mukamal (2001) demonstrated that a weathering approach can be used in examining determinants and correlates of successful aging. A prospective study of two distinct male cohorts - college educated and ‘core inner-city’ men – yielded interesting results. Men who grew up in an inner-city, urban context experienced multiple childhood and lifetime risk factors that attenuated life expectancy compared to men who were not from the inner-city and went to college. Also, the men’s health status at age 50 was a significant predictor of health and mortality at ages 70 and 80. Therefore, this analysis suggests that there are certain aging trajectories that can be predicted from early life experiences and situational context.

Related work aimed towards understanding converging identities in Black women, potential stressors and health has examined the construct of the Strong Black Woman (Romero, 2000) and the phenomenon of the Sojourner Syndrome. The Sojourner Syndrome, a female complement to John Henryism (James, 1994), posited that Black women experience an increased incidence of illness and disease due to their tendencies to work constantly, assume a strong (as in Strong Black Woman) disposition, and take on multiple responsibilities as wage-earners as well as family anchor (e.g., mother, wife, caretaker, etc.). This approach uses an intersectional framework and challenges prevailing theories attributing racial disparities in health to biology or lifestyle. Mullings and Wali (2001) argued that African-American women encounter many events creating “persistent psychosocial stress” during the life course, and maladaptive coping strategies and persistent attempts to overcome stress related to inequalities and barriers worsen a

woman's health rather than improving it. The authors went on to suggest that ineffective coping responses to social inequalities increase the risk of adverse mental and physical health outcomes. Recent qualitative and quantitative research on cardiovascular health in Black women supports this idea (Warren-Findlow, 2006).

Although useful in providing research and context about the lived experience of Black women, few reports have fully explored the heterogeneity among Black women and examined what implications, if any, these archetypes may have for the well-being of college-educated, middle-class or upper middle-class Black women. Cole and Omari (2003) discussed the dilemmas of upward mobility and the hidden costs associated with the intersection of gender, class and race within the Black community. They suggested that two opposing ideologies plague African-American social mobility – a desire for and emphasis on achievement and self-empowerment contrasted with an ongoing state of oppression and discrimination. Cole and Omari's observations of "double stratification" (Cookson and Persell, 1991) by race and class and how this added burden operates within educational institutions, may provide valuable insight regarding reasons why health trajectories for college-educated African-Americans may or may not differ from non college-educated counterparts or college-educated women from other racial-ethnic groups (Cole & Omari, 2003; Higginbotham & Weber, 1992). The authors noted that acute and chronic stress is experienced by many African-Americans who achieve success by educational attainment; further, the degree of happiness and contentment experienced by the White middle-class may not be evident among African-Americans due to sociocultural conflict (Cole & Omari, 2003). Similarly, Colen (2006) and colleagues

found that while upward mobility decreases rates of infant mortality for White women, this same benefit does not hold for Black women.

In evaluating stressors, Geronimus (2006) and colleagues identified patterns of allostatic load in a mixed-race sample of adults aged 18-64 and found disparities persisted not accounted for by socioeconomic position. Results from this study indicated that African-Americans of all ages had higher levels of allostatic load compared to Whites, and the probability of increased allostatic load scores was particularly significant for those aged 35-64. These differences were not explained by socioeconomic variables. Thus, the continued significance of race, class, gender and age, and the impact of those intersectional identities on reserves of psychosocial resources, physical and mental health, were examined in this study. Therefore, a secondary aim of this dissertation research was to examine ways in which the relationship between stress and health might be stratified by social identity – race and class – and moderated by psychological resources.

Successful Aging in Context

Socioeconomic Position and Successful Aging

Socioeconomic measures are the strongest predictors of health outcomes, and affect the likelihood of achieving successful aging. Socioeconomic position (SEP) refers to a cumulative measure of social and economic factors that influence one's social position and groups held in society (Krieger, 2001; Krieger, Williams, & Moss, 1997; Lynch & Kaplan, 2000). Many variables are used to indicate class; however, the use of socioeconomic position denotes an aggregate construct “that includes resource-based measures—including wealth, income, poverty and educational attainment, as well as

location within hierarchical social and economic systems,” according to Krieger (2001). Therefore, SEP represents a cumulative measure of childhood and early life factors that capture situational position better than commonly used measures occupation or education. The psychosocial implications of SEP for the aging adult can be numerous. For example, in a prospective study of older adults Miner-Rubino, Winter, and Stewart (2004) found that non college-educated midlife men reported higher levels of concern about aging than their college-educated counterparts. Although little work has been done to examine the specific connection between class and psychological concerns about aging, the link between class, education and financial resources may lead poor and working-class people to experience greater concern with aging due to worries about limited resources to sustain themselves in older age (Gullette, 1997; Keyes & Ryff, 1998).

A second mechanism by which SEP is thought to affect well-being is through exposure to stressors. Research shows that lower SEP adults typically contend with more stressors than higher SEP/SES individuals (Lantz, House, Mero, & Williams, 2005; Turner & Avison, 2003). Using data from the Americans’ Changing Lives Study, for example, Lantz and colleagues (2005) found that adults between the ages of 25 and 44 with less than a high school education experienced higher levels of marital, parental, and financial stress and were more likely than those with higher levels of educational attainment to report having been assaulted and experiencing the death of a child. In a study of women transitioning from welfare to work, Kaplan and colleagues (2005) found a positive association between SEP and negative health outcomes, such as cardiovascular risk factors. In addition to being exposed to more stressors, those of lower SEP may have

fewer psychological resources in terms of perceived control (Mirowsky & Ross, 2003a; Mirowsky & Ross, 2003b) or mastery (Pearlin, Nguyen, Schieman, & Milkie, 2007); both factors are believed to help minimize the effects of stressors (Mirowsky & Ross, 2003b). In sum, research suggests that SEP is an important predictor of successful aging and that its effects are not limited to any single definition of socioeconomic status. SEP shapes experiences across the life course, and thus the opportunity for successful aging.

Gender and Successful Aging

Strawbridge and colleagues (2002) found that more women than men experience successful aging. However, research shows that in general women are at greater risk of chronic disease comorbidities and experience more functional limitations and disability in older age compared to men (Murtagh & Hubert, 2004; Verbrugge & Wingard, 1987). Further, although women outlive men, gender differences in cognitive and physical functioning may mean qualitative differences in the aging experience for men and women.

Moen and Chermack (2005) suggested that consideration of how gender-specific roles and societal expectations shape experiences over the life course may facilitate a more complete understanding of gender disparities in health in older adulthood. For example, women have disproportionately more child-rearing burdens and are more likely to be caregivers than men (Moen, 2001; Moen & Chermack, 2005). Given this, it is possible that social roles and expectations prescribed for men and women might differentially influence the propensity for good health. For example, the addition of new social roles (e.g., marriage, employment) in early adulthood may also cause stress. Therefore, life changes pertaining to role transitions and changes in economic stability,

and the ways in which those changes are processed and appraised by the individual, have potential relevance for well-being and may moderate the association between personality and health.

Beyond traditional roles, men and women also differ in subjective experiences encountered during the life course. At every age, men have higher socioeconomic status compared to women (Andes, 1992; Grodsky & Pager, 2001; Smith & Tienda, 1987; Tienda & Lii, 1987; Tienda, Smith & Ortiz, 1986). Men also generally experience less gender-based discrimination and harassment than women (Schulz & Mullings, 2006). Despite these social differences, women have lower mortality rates than men and show lower death rates for thirteen of the fifteen leading causes of death. These findings indicate possible social norm differences about what constitutes suitable behavior for men versus women. These social differences are often tied directly to health and risky behaviors. For example, men are more likely to smoke than women and are twice as likely to consume five or more drinks in a single day, compared to women (Eberhardt et al., 2001; Williams, 2003). Moreover, men are twice as likely as women to die from accidents, suicide, cirrhosis of the liver and homicide (Arias & Smith, 2003). While women live longer lives than men, it is worth questioning whether the quality of life they experience is optimal and should be characterized according to the current definition of successful aging. Claims supporting the universal nature of successful aging require a critical examination of the generalizability of this theory to various groups.

Race-Ethnicity and Successful Aging

Aside from SEP and gender, the context of race-ethnicity is also relevant to the experience of aging adults. Often confounded with socioeconomic position, race

interacts with class to yield negative health outcomes, and affects opportunities for successful aging (Glass, Seeman, Herzog, Kahn, & Berman, 1995; House & Williams, 2000; Jackson, Antonucci, & Gibson, 1993; Kawachi, Daniels, & Robinson, 2005; Manly & Mayeux, 2004; Ostrove & Adler, 1998; Ostrove, Feldman, & Adler, 1999; Williams, 1999; Williams & Wilson, 2001).

Like gender roles, experiences shaped by socioeconomic background and racial group membership likely relate to physical health, life satisfaction and life review, perceived wellness, and thoughts about whether one is aging successfully or not. Yet relationships among gender, race, class and successful aging have seldom been examined. Dillaway & Byrnes (2009) argued that the theory of successful aging supports existing structures, institutions, and relationships of power and privilege within society through its emphasis on the individual, and fails to recognize the way in which some individuals (e.g., White, middle-class males) may be systematically afforded more opportunities to age successfully than others. On the other hand, in spite of systematic exclusion, some groups appear resilient in response to obstacles. Black middle-class women, for example, present a paradoxical case for analysis in this respect. While Black women, on average, live longer than both White and Black males, they often suffer more adverse health outcomes when compared to White women of equal social position. National data indicates that Black women with the highest SES/SEP have equal or higher rates of infant mortality, hypertension, and excess weight than White women with the lowest SES/SEP (Schultz & Mullings, 2006). Yet this group of Black women is often ignored in discussions of race, class and health. While civil rights and affirmative action movements have provided many opportunities for Black women in the workplace and

beyond, their life experiences seemingly represent a complex interaction of multiple factors that may create a disadvantage, even given social class standing. These contrasts suggest that it is important to evaluate how exposure to various risk factors over the life course, as reflected in race, socioeconomic position and gender, may influence perceived wellness and the ability to meet successful aging criteria.

The Current Study

This dissertation research adds to the existing literature in several ways. First, this research focused on a particular cohort of women who came of age during the era that included the civil rights movement, the women's movement and the Vietnam war and protests against it. A subset of the larger Baby Boomer generation, this group is the leading edge of the current population of women entering older age. Many theorists, investigators, and participants involved in personality development and successful aging research are men; hence, the applicability of existing theories to women has been questioned. Several scholars (Barnett & Baruch, 1978; Gilligan, 1982) have argued that the work of Erikson does not fit the experience of women. The current study did not identify different developmental stages for men and women; instead it assessed how well one of the stages proposed by Erikson applies to a group of women transitioning between midlife and older age, thereby testing the assumption that Erikson's later adult stages of development are applicable to women as well (Erikson et al., 1986). Much of what we know about adult development is also limited by race, education and class, in that most samples in both developmental and successful aging research consist of participants that are highly educated, and middle to upper-middle class. (Gilligan, 1982, Gould, 1978;

Levinson, 1978; Rowe & Kahn, 1987; Vaillant, 1977). The women in the current study were also highly educated and middle to upper-middle class. However, there were women in one of the samples who are African-American, and in addition there are both African American and White women in that sample who come from non-middle-class family backgrounds. This research is also distinctive in its focus on the experience of successfully aging adults from relatively early in the process (e.g., at midlife), near the end of a developmental stage that has received little attention in the aging literature.

The preceding literature review summarized findings about personality development, successful aging, race, class, gender and health, and noted significant gaps in our understanding of how successful aging might be experienced by different groups. The studies presented here address these gaps in some ways, and aim to provide better understanding of both personality correlates of successful aging and moderators of health outcomes in three samples of midlife women. Because health is a central criterion of successful aging, it is important to separately assess the different dimensions that constitute being healthy (e.g., subjective health) as outcomes. It was hypothesized that personality resources affect health both through their influence on health-promoting behaviors and health consciousness, and indirectly through coping variables that also contribute separately to well-being (e.g., positive coping strategies).

The primary objective was to examine change in personality development and the relationship between one developmental indicator, generativity, and change in successful aging. At the same time, I considered whether increased anxiety or worry about aging compromises successful aging over time. The third study in this dissertation focused on

psychological resources that may moderate the relationship between potential stressors and health outcomes. The following hypotheses were examined:

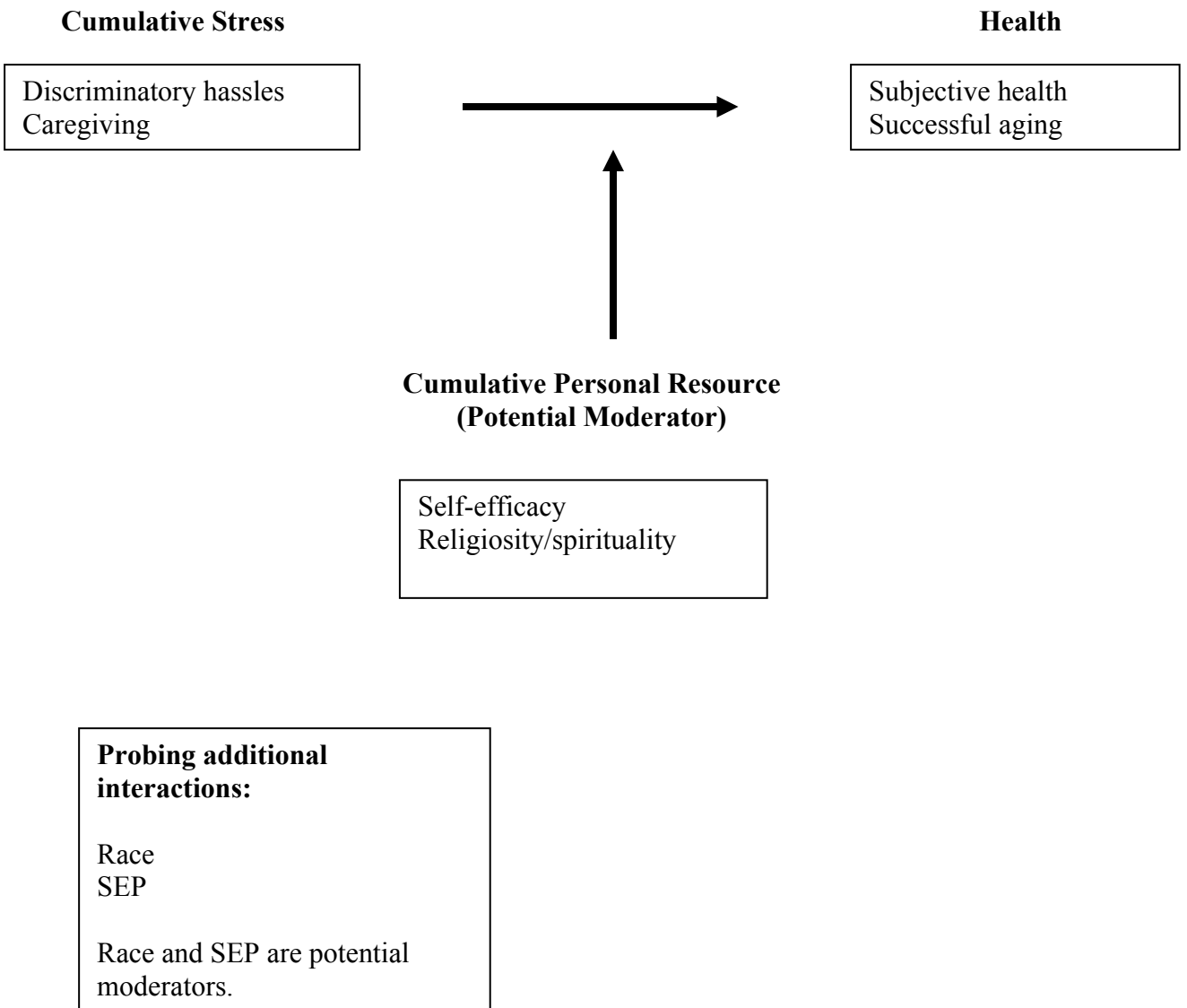
Hypothesis 1: Based on Erikson's model of personality development and Rowe and Kahn's notion of successful aging, increases in generativity would be a positive correlate and predictor of successful aging.

Hypothesis 2: Based on the general theoretical significance of emotional worry and health outcomes and Rowe and Kahn's notion of successful aging, increased levels of concern about aging would be a negative correlate and predictor of successful aging.

Hypothesis 3: Based on the transactional model of stress and coping, personal resources represented by self-efficacy and religiosity/spirituality would moderate the relationship between cumulative and health outcomes subjective health and successful aging. See Figure 2.1 for conceptual model. Additional analyses probed potential interactions by race and socioeconomic position.

Figure 2.1

Conceptual model: The effect of personal resources on the relationship between stress and health



CHAPTER III

METHODS AND RESULTS

Three Studies of Women's Successful Aging

This dissertation drew on data from three samples of women in their early sixties. All three samples involved longitudinal studies of college-educated women. Study 1 was a cross-sectional analysis of the relationship between personality and successful aging in a group of women who graduated from the University of Michigan between the years 1967-1973 (the Women's Life Paths Study, or WLPS) (Tangri, 1969). Study 2 included identical analyses with longitudinal data and attempted to replicate relationships between personality and successful aging from Study 1 in two similar groups of college-educated women (Smith College and Radcliffe College, classes of 1964). Specifically, these two studies examined associations between personality (generativity and concerns about aging) and successful aging within and over time. Study 3 examined the direct relationship between stress and health and a potential moderating pathway. Analyses for Studies 1 and 3 included data from the University of Michigan alumnae who participated in the Women's Life Paths Study in 1992 and 2008. Responses from the fifth wave (2008) were used to construct a composite measure of stress and assess the relationship with two outcomes - subjective health and successful aging – in Study 3. The composite stress index included a discriminatory hassles scale and caregiving measure. A composite resource variable that included self-efficacy and religiosity/spirituality subscales was examined as a potential moderator, since these psychological resources may help individuals manage stressors to minimize negative effects on their health.

Composite measures used separate, not necessarily related variables, to best assess the underlying construct of stress and personal resources, respectively.

Generally speaking, women in all three samples were similar with regard to level of education, employment and marital status. However, there were some differences. University of Michigan graduates had wider age variability than the Smith or Radcliffe women, due to the times of recruitment. On average, the University of Michigan women were 61.4 (SD = 3.21) in 2008, and Smith and Radcliffe women were 62 (SD = 1.08) in 2005. The University of Michigan respondents also included women of varied socioeconomic and racial background, whereas nearly all the Smith and Radcliffe women were non-Hispanic Whites (98%) and of middle to upper middle-class background (85%).

The participants in all three studies embodied several elements of aging successfully, including low levels of disease and disability, high cognitive and physical functioning, and active engagement with life. Thus, the data collected in this study permitted examining relationships between personality and successful aging in three relatively healthy and active groups of women in their early sixties. Multiple linear and hierarchical regression models were used to analyze cross-sectional and longitudinal relationships. Although the use of longitudinal datasets presents the opportunity for some attrition over time, analyses of these data indicated that no significant loss to follow-up effects or sampling biases were detected across the various waves of data from all three samples. When comparing the participants from each sample to their respective overall cohort, descriptive statistics indicated similar patterns on major demographic variables and no significant mean score differences on predictor variables.

STUDY 1: PERSONALITY CORRELATES OF SUCCESSFUL AGING AMONG AFRICAN-AMERICAN AND WHITE WOMEN

The purpose of this study was to evaluate whether generativity and concerns about aging were correlates of successful aging. After controlling for prior successful aging, hypotheses one and two were examined using 2008 measures of generativity, concerns about aging and successful aging in the Women's Life Paths Study sample. Although examining the same hypotheses, two primary differences should be noted between Studies 1 and 2: Study 1 employed a cross-sectional design in a racially and socioeconomically diverse sample whereas Study 2 examined change in relationships over time and analyses were conducted in comparable, but racially homogenous samples.

Method

Sample and Participant Selection

The Women's Life Paths Study (WLPS) is a longitudinal study of women who graduated from the University of Michigan between 1967 and 1973 (Tangri 1969; 1972; Tangri & Jenkins, 1986; 1993). Women were followed up in subsequent waves (1970, 1981, 1992 and 2008), and completed a survey consisting of measures pertaining to work and family life, identity and consciousness, civic/political involvement and general well-being. In 1992, Black women who had graduated in classes between 1967 and 1973 were recruited, as well as a group of White activists who graduated during the same time. During the most recent wave of data collection in 2008, surveys were sent to all women originally recruited for the longitudinal study at any time. This included all women who had been asked to participate in the 1992 wave of data collection, plus women who were

members of the same classes (1967-1973), but had not participated in previous waves of data collection. For this study, analyses included all participants in any of these recruitment efforts who participated in 1992 and 2008.

Two-hundred and forty-four women responded to the 2008 survey. Of these, 155 had also participated in the 1992 survey. Sixty-five percent of those responding in 2008 identified as White/Caucasian, 33% as Black/African American, and 2% as other (including bi-racial, Latina, Native American, and Jewish). Sixty-six percent of the women in the sample reported that they currently lived with a partner or a spouse. Ninety-five percent reported having ever been married or lived with a partner; 49% had been divorced or had a live-in relationship end. Most reported that they were in “good,” “very good” or “excellent” health. Thirty percent of respondents had yearly household incomes between \$50,000 and \$100,000, followed by 21% of respondents who reported annual incomes of between \$100,000 - \$150,000. Analyses indicated that the Black and White women were comparable on most demographic variables. There were no significant differences between the groups' mean levels of education, personal income, and number of children in 1992 or 2008. However, in 1992 White women in the sample were more likely to be married or living with a partner (84% for White women vs. 56% for Black women), $\chi^2(15.90) = p < .05$. In 2008, Black women were more likely than White women to report that they had ever been divorced, or had a live-in relationship end (59%, compared to 44%); and they were less likely to report that they were currently living with a partner (49%, compared to 75%). In 2008, Black women were also more likely than White women to report that they had children living with them. There were no significant differences on these demographic variables by socioeconomic position.

Measures

All variables were measured in 2008, except those contributing to the assessment of successful aging in 1992, used as a control. The specific scale construction of each index is discussed here and a complete list of items can be found in appendices A - J.

Successful aging at age 61. In the current study, successful aging was assessed in three domains: (1) perceived general health, (2) life satisfaction, and (3) active involvement.

Perceived general health. Perceived general health was assessed with two items that asked respondents to rate their current state of health in the past year and compare their health with others they knew. Each item was assessed on a 5-point scale that ranged from “1(poor)” to “5 (excellent).” The combined mean score for both items was 4.17 (SD = 1.10), and the internal consistency for this measure was .75.

Life satisfaction. Global life satisfaction was assessed by asking participants, “Overall, how satisfied are you with the way your life has turned out so far?” Responses ranged from “1 (not at all satisfied)” to “5 (extremely satisfied).” This single item measure has been shown to have high reliability and validity (Gurin, Veroff, & Feld, 1960). On average, respondents in this sample indicated a moderate degree of life satisfaction; the sample mean was 3.91 (SD = .82).

Active involvement. Active involvement was assessed by the five-item Community Involvement subscale developed by Fendrich & Lovoy (1988) where respondents were asked to indicate their participation in community activities. Sample items were, “Worked with others on local problems” and “Informed others in my

community about politics.” Respondents could indicate their level of involvement on a “0 (never)” to “3 (regularly)” scale. The summed score range for this measure was between 0 and 13 and the mean was 5.12 (SD = .42); the internal consistency for this measure was .74.

Scores on all items were first standardized and then combined to create a mean aggregate measure of successful aging; mean values for individual subscales were computed. Overall, the successful aging score was internally consistent (Cronbach’s alpha = .75). Data about successful aging that was collected at the final wave (2008) when the participants averaged 61 years of age provided the material for the key outcomes. The mean for the 2008 measure was 4.08 (SD = .83) on a 5-point scale. Identical data about successful aging collected in 1992 was used as a baseline control. The mean for the 1992 measure was 4.18 (SD = .97) on a 5-point scale.

Generativity. The generativity scale is a subscale of the Feelings about Life Scale created by Helson and Moane (1987; see also Helson & Wink, 1992). It reflects a sense of contributing to the next generation and connecting with the world beyond the self. Stewart and colleagues (2001) previously reported significant correlations of this scale with Loyola generativity and generativity q-sort scores. This scale has been found to have both high internal consistency and test–retest reliability (Stewart et al., 2001). It includes eight self-rated statements on a 3-point Likert-scale; responses ranged from 1 (not at all descriptive) to 3 (very descriptive). Sample items included, “I feel a new level of productivity or effectiveness,” “I have interest in new things beyond my family,” and “I have a wider perspective on life” (see appendix B for a complete list of the items). The mean score was 2.41 (SD = .40); the alpha was .69.

Concerns about aging. The concerns about aging subscale (Stewart et al., 2001) assessed feelings about growing older. The five-item scale included self-rated statements on a 3-point Likert-scale; responses ranged from 1 (not at all descriptive) to 3 (very descriptive). Sample items included “I think a lot about death” and “I feel the limits of what I will be able to accomplish” (see appendix C for a complete list of the items). As noted earlier, Stewart and colleagues (2001) reported a significant correlation of this scale with negative feelings about getting older. A total score for all items was calculated and standardized; the internal consistency of this measure was .73 and the mean was 1.81 (SD = .83).

Data Analyses

Relationships between potential correlates and successful aging were examined in 2008 using multivariate regression models that control for prior level of successful aging. To assess potential differences by race and socioeconomic position, product terms were added to the final model; for these product terms, continuous variables assessing generativity and concern about aging were centered prior to computing the interaction term (Aiken & West, 1991; Judd & McClelland).

Results

To test the hypotheses about the relationships of generativity and concerns about aging to successful aging, I conducted multiple regression analyses. A multivariate model controlled for baseline successful aging (1992) and assessed the relationship between 2008 measures of generativity and successful aging and concerns about aging

and successful aging (see Table 3.1a). Correlations among variables are shown in Table 3.1b.

Table 3.1a
Multiple Linear Regression Analyses Predicting Successful Aging (2008) from Generativity and Concerns about Aging (N = 149)

		WLPS alumnae sample Association with 2008 successful aging (n= 149; R ² = .16*)	
Variable	Year	r	B
Baseline successful aging	1992	.32***	.29***
Race/Ethnicity	2008	-.07	.19
Concerns about aging	2008	-.21***	-.38*
Generativity	2008	.15*	.42*
Generativity*Race			-.19
CAA*Race			-.18
Generativity*SEP			-.03
CAA*SEP			.17

Note. NS interactions by race/ethnicity. **p* < 0.05, ***p* < 0.01, ****p* < .001
 CAA = Concerns about Aging, SEP = Socioeconomic Position

Table 3.1b
Bivariate Correlations among Variables for Study 1 (WLPS)

	Successful Aging 1992	Concerns about aging 2008	Generativity 2008	Successful Aging 2008	Race	SEP
Successful Aging 1992	-	-.059	.106	.318***	-.070	-.129
Concerns about aging 2008	-.059	-	-.121	-.207***	-.117	.081
Generativity 2008	.106	-.121	-	.147*	.178**	.014

Successful Aging 2008	.318***	-.207***	.147*	-	-.06	.025
Race	-.070	-.117	.178**	-.061	-	-.432***
SEP	-.129	.081	.014	.025	-.432	-

* $p < 0.05$, ** $p < 0.01$, *** $p < .001$

Bivariate correlations showed significant relationships between generativity and concerns about aging and the outcome, successful aging (see Table 3.1b). Regression analysis indicated that concerns about aging at 61 were negatively associated with successful aging. In contrast, feelings of generativity at 61 were positively associated with successful aging at 61.

In comparing group means for African-American and White women, there were significant differences in generativity and concerns about aging; Black women had significantly higher scores for generativity ($p < .01$) and lower scores on the concerns about aging scale ($p = .07$). There were no differences on successful aging between the two groups (see Table 3.2). To further assess whether the relationships between generativity, concerns about aging and successful aging held for all women or differed according to class or race-ethnicity, I examined potential interactions between these variables. Inclusion of product terms in the multivariate model indicated no significant interactions with race or class.

Table 3.2

Comparison of Personality Indicator Means between Black and White Women

	Black	White
Successful aging 2008	4.01 (SD = .75)	4.12 (SD = .88)
Successful aging 1992	4.00 (SD = 1.05)	4.15 (SD = .94)
Concerns about Aging ($p = .07$)	1.75 (SD = .41) †	1.85 (SD = .41)
Generativity	2.52 (SD = .33) **	2.39 (SD = .36)

* $p < 0.05$, ** $p < 0.01$, *** $p < .001$

Discussion of the Results for Study 1

In this study, generativity was positively correlated with successful aging, and concerns about aging were negatively correlated with successful aging in a diverse sample of college-educated women at age 61. These relationships held in a multiple regression model that controlled for successful aging at age 45.

Although the data available for this sample only permitted examination of within-time relationships, it is significant that support was found for both hypotheses at a time when the women in this sample were just beginning to transition to older age. In 2008, the mean age reported was 61. While this is an age when one might expect to experience some age-related concerns, the women in the sample still devoted a significant portion of time to work and leisure activities, suggesting that they remained physically and socially engaged despite expressing concerns about growing older. Interaction effects were examined for race and class; however, no evidence for differences between race-ethnic or class groups were found.

This study highlights the need for longitudinal analyses that assess whether prolonged or increased concerns about aging negatively affect health or opportunities for successful aging. Furthermore, additional research is warranted to elucidate the many

dimensions of aging anxiety. Are concerns and fears about growing older tied to existing health concerns or family history of health issues? Anticipation of death? Changes in physical appearance? We know very little about how multiple sources of aging anxiety are shaped by the various contexts of women's lives. While there was a statistical trend indicating higher levels of concerns about aging, on average, for White women compared to Black women in the sample, there were no significant interaction effects with concerns about aging on successful aging. Further research is needed to confirm these findings in larger samples and determine whether attitudes and concerns about aging differences result in variant ways of understanding and caring for one's health. At the very least, these findings indicate that concern about growing older is sometimes present during late midlife and is negatively associated with successful aging, as defined by subjective health, life satisfaction and engagement with life.

Equally, in this study, generativity was positively associated with successful aging. Achieving generativity is a major developmental task during adulthood (Erikson, 1950). The current study found a significant positive relationship between generativity and successful aging. Both successful aging and generativity describe an aspect of continuity of roles and activities during the transition to older age. Erikson (1980) defined generativity as "the concern in establishing and guiding the next generation." Shifting one's self-centered orientation to a broader context (e.g., concern about others and future generations) may in itself influence psychological well-being; however, it is equally likely that McAdams' (McAdams & de St. Aubin, 1992; McAdams, Hart, & Maruna, 1998) conceptualization of generativity may benefit health directly through action. According to this perspective, generativity "consists of a constellation of inner

desire, cultural demand, conscious concern, belief, commitment, action, and narration revolving around and ultimately justified in terms of the overall psychosocial goal of providing for the survival, well-being and development of human life in succeeding generations” (McAdams, Hart, & Maruna, 1998). It is therefore plausible to ask how this type of generative concern, also the focus of this study, is translated into helping others, volunteerism and generally positive, health-promoting behaviors. There is empirical evidence that generative attitudes are strong predictors of volunteerism, community involvement and philanthropy (McAdams & de St. Aubin, 1992; McAdams & Logan, 2004; Rossi et al., 2001). As previously mentioned, research has also shown positive correlations between generativity, physical health, life satisfaction and well-being (e.g., Ackerman, Zuroff, & Moskowitz, 2000; Grossbaum & Bates, 2002; Huta & Zuroff, 2008; Keyes & Ryff, 1998; McAdams, de St. Aubin, & Logan, 1993). Thus generativity may be an important factor affecting quality of life in older age (Keyes and Ryff, 1998).

No significant interactions by social class or race were found, but there were significant mean differences in the level of generativity expressed by White and Black women. These findings support previous research showing that African-Americans score significantly higher than Whites on measures of generative concern and acts after controlling for socioeconomic indicators (Hart, McAdams, Hirsch, & Bauer, 2001). While it is not entirely clear why African-Americans reported higher levels of generativity, it is possible that higher reports of generative attitudes reflect an ongoing commitment to outreach service (via church, club and social organizations) and informal familial networks that appear to be features of the African-American community. In this way, generativity may be a personal resource that promotes engagement with the social

world as well as a means of remaining connected with one's community and neighborhood institutions.

Taken together, these findings support previous research and particularly the work of Stewart et al., (2001), who found that generativity was positively related to well-being in similar samples of college-educated women. Future research is required to understand the long term effects of generativity and whether increases or consistently high levels of generativity confer better health outcomes in the course of aging.

STUDY 2: PERSONALITY PREDICTORS OF SUCCESSFUL AGING IN TWO SAMPLES OF COLLEGE-EDUCATED WOMEN

This study attempted to replicate the findings of Study 1 in two samples of college-educated women of approximately the same age who are racially homogenous and possess similar class backgrounds to one another. Identical data at two time points in both samples were used to examine hypotheses one and two, and also assess change in these relationships over time.

Method

Sample and Participant Selection

Smith College sample. The Smith sample included graduates from the class of 1964 who participated in a 1995 survey about their college experiences, spiritual and political beliefs, family and career goals, and overall health and well-being (see Duncan, 1999; Duncan, Wentworth, Owen-Smith, & LaFavor, 2002; and Stewart et al., 2001, for more information regarding sampling and procedures). Data from both 1995 and 2005 were used, when the women were 52 and 62 years old, respectively. Eighty-one women

completed surveys in both 1995 and 2005. In 2005, seventy-three percent were currently married; over forty percent had been divorced at some time. Most women reported “above average” to “excellent” physical health and household incomes of \$100,000 - \$200,000.

Radcliffe College sample. The women in this sample participated in a longitudinal study of Radcliffe College graduates (Adams, Cartwright, Ostrove, Stewart, & Wink, 1998; Peterson & Klohnen, 1995; Stewart, 1974; 1978; 1980; Stewart & Salt, 1981; Stewart & Vandewater, 1993). Women in each wave completed a survey consisting of personality, adult development and health measures. Respondents also provided information regarding life events, family and work experiences and basic demographics. Data collected in both 1996 and 2005 were used, when the women were 53 and 62 years of age, respectively. Seventy-nine women participated in both 1996 and 2005. In 2005, sixty-one percent were currently married; forty-four percent had been divorced at some time. Most reported “above average” to “excellent” health and household incomes between \$100,000 - \$200,000.

Measures

The Smith and Radcliffe College sample datasets included identical measures of generativity and concerns about aging as those used in Study 1. However, the successful aging measure for this study included a different scale of involvement from that used in Study 1. The construction of the successful aging scale for both the Smith and Radcliffe samples will be described here. Otherwise, the procedures, scale construction and data analysis for all other variables were the same for both samples, and identical to measures used in Study 1.

Successful aging at age 62. As in Study 1, in the current study successful aging was assessed in three domains: (1) perceived general health, (2) life satisfaction, and (3) active involvement.

Perceived general health. General health was assessed with two items that asked respondents to rate their current state of health and energy in the past year on a 5-point scale that ranged from “1 (poor)” to “5 (excellent)”. In a prior wave of the Radcliffe sample, this 2-item measure was found to be correlated with other measures of health and well-being (Stewart & Vandewater, 1998). Combined mean scores for both items were 4.20 (SD = 21.7) for Smith graduates and 4.11 (SD = 21.7) for Radcliffe graduates.

Life satisfaction. Global life satisfaction was assessed by Gurin’s (1960) single item measure, “Overall, how satisfied are you with the way your life has turned out so far?” Responses ranged from “1 (not at all satisfied)” to “5 (extremely satisfied).” This item has been shown to have high reliability and validity (Gurin, Veroff, & Feld, 1960). Mean scores were 4.01 (SD = .88) and 3.76 (SD = 1.07) for Smith and Radcliffe women, respectively.

Active involvement. Active involvement in the current study was assessed by calculating the total number of professional and religious organizations belonged to in the past year. Fifty-eight percent of Smith women were involved in at least one professional organization (M = 1.88, SD = .51) and thirty-seven percent were involved in at least one religious organization (M = 1.07, SD = 1.03). Forty six percent of Radcliffe women were involved in at least one professional organization (M = 1.76, SD = .69), while forty percent were involved in at least one religious organization (M = 2.1, SD = .75).

Involvement in either type of organization or both was counted to create a summed variable.

Scores on all items were standardized and combined to create an aggregate measure of successful aging, and means were computed and used for analyses (Smith sample $\alpha=.77$; Radcliffe sample $\alpha=.73$). In Radcliffe, this measure of successful aging was significantly and positively correlated with physical health on the Cornell Medical Index (Brodman, Erdmann, & Wolf, 1956; $.39, p < .05$). In both Smith and Radcliffe, scores on Gurin, Veroff, and Feld's (1960) measure of overall well-being ($r_s = .22$ and $.50, p < .05$, respectively), and negatively correlated with reports of chronic illnesses ($r_s = -.16$ and $.50, p < .05$, respectively). It was uncorrelated with annual income and education level, suggesting that these are not problematic confounds in either sample.

Clearly the Smith and Radcliffe samples in this study were quite similar in education, physical health and social engagement. T-test comparisons were conducted to assess potential differences between participants who participated in both waves versus those who did not. Analyses comparing participants in this study and nonparticipants indicated no significant differences on major demographic variables in either the Smith or Radcliffe samples. For example, Smith alumnae who participated in both 1995 and 2005 were similar on demographic variables (such as education and marital status) to women who only participated in 1995 or 2005. Likewise, demographic variables for Radcliffe women who participated in both 1996 and 2005 were not different from those of women who had data at either time point, indicating a small likelihood of selection bias. However, there was a marginally significant difference on generativity among Smith

women. The women who responded to both surveys (1995 and 2005) scored higher on generativity (Mean = 2.41, SD = 0.49) than did those women who responded only in 1995 (Mean = 2.32, SD = 0.36), $t(80) = 2.58, p = .07$. However, there were no differences on concerns about aging or successful aging in this sample, and no differences between the two groups for the Radcliffe sample on any variables used in analyses.

Concerns about aging. The concerns about aging measure is identical to the one used in Study 1 (see Appendix C). The sample mean for Smith women was 1.92 (SD = .37) and 1.94 (SD = .44) for Radcliffe women. The internal consistency of this measure was .72 in the Smith sample and .76 in the Radcliffe sample.

Generativity. The generativity measure is identical to the one used in Study 1 (see Appendix B). On average, Smith women scored 2.40 (SD = .39) on this scale; Radcliffe sample mean was 2.39 (SD = .38). The Cronbach's alpha for the Smith sample was .64, and .62 for the Radcliffe sample.

Data Analyses

Previous research has found that personality may change systematically over time (Helson & Stewart, 1994; Jones, Livson, & Peskin, 2003). Using methods described by Bryk & Raudenbush (1992) and Helson, Jones and Kwan (2002), this study examines mean-level shifts in personality over a ten-year period and uses multilevel modeling to examine whether these shifts are associated with change in successful aging over time.

Results

As may be seen in Table 3.3, successful aging, concerns about aging and generativity were relatively stable over ten years for both samples.

Table 3.3
Over-time Consistency of Variables Over Time (1995/1996– 2005) for Smith (N = 81) and Radcliffe (N= 79) Samples

	Smith	Radcliffe
Successful Aging	.56 ***	.42***
Concerns about Aging	.59***	.58***
Generativity	.52***	.51***

* $p < 0.05$, ** $p < 0.01$, *** $p < .001$

For both samples, bivariate correlations indicated that concerns about aging at both times were negatively correlated with successful aging in 2005, and generativity was positively related to successful aging (see Table 3.4a). Bivariate correlations among all variables are shown in Tables 3.4b and 3.4c.

Table 3.4a
Correlations between Personality Indicators and Successful Aging for Smith (N = 81) and Radcliffe (N = 79) samples

	Successful Aging 2005	
	Smith	Radcliffe
Concerns about Aging 1995/1996	-.40***	-.44***
Concerns about Aging 2005	-.34**	-.25*
Generativity 1995/1996	.36**	.34**
Generativity 2005	.32**	.46***

* $p < 0.05$, ** $p < 0.01$, *** $p < .001$

Table 3.4b

Bivariate Correlations among Variables for Smith (N = 81) sample

	Successful Aging 1995	Concerns about aging 1995	Generativity 1995	Successful Aging 2005	Concerns about aging 2005	Generativity 2005
Successful Aging 1995	-	-.421***	.358**	.508***	-.280**	.224*
Concerns about aging 1995	-.421***	-	.129	-.310**	.586**	.087
Generativity 1995	.358**	.129	-	.230*	.027	.517***
Successful Aging 2005	.508***	-.310**	.230*	-	-.335**	.323**
Concerns about aging 2005	-.280**	.586***	.027	-.335**	-	.029
Generativity 2005	.224*	.087	.517***	.323**	.029	-

* $p < 0.05$, ** $p < 0.01$, *** $p < .001$

Table 3.4c

Bivariate Correlations among Variables for Radcliffe (N = 79) sample

	Successful Aging 1996	Concerns about aging 1996	Generativity 1996	Successful Aging 2005	Concerns about aging 2005	Generativity 2005
Successful Aging 1996	-	-.404***	.356**	.454***	-.292**	.224*
Concerns about aging 1996	-.404***	-	.129	-.259*	.576***	.076
Generativity 1996	.356*	.126	-	.339**	.031	.507***
Successful Aging 2005	.454***	-.259*	.339**	-	-.247*	.418***
Concerns about aging 2005	-.292**	.576***	.031	-.247*	-	.029
Generativity 2005	.224*	.076	.507***	.418**	.029	-

* $p < 0.05$, ** $p < 0.01$, *** $p < .001$

Variable means at each time period for Smith and Radcliffe participants are presented in Tables 3.5a and 3.5b. Assuming personality can be assessed at different ages, then increases, decreases, or no change in score are important to note and indicate whether individuals are changing or not with respect to a particular personality characteristic (Caspi & Roberts, 1999). In the current study, mean level shifts between 1995/1996 and 2005 were examined in both groups. There was a significant increase in concerns about aging for Smith women from 1995 to 2005, and a trend ($p = .09$) mean increase during the same time (1996 – 2005) for Radcliffe respondents. Successful aging significantly increased for Radcliffe women over time; however, there was not a significant increase in successful aging for Smith women. Generativity did not significantly change for Smith or Radcliffe women over time.

Table 3.5a
Comparison of 1995 and 2005 Successful Aging and Personality Indicator Means and Standard Deviations for Smith participants (N = 81)

Variable	Mean	SD	T (75)	p
Successful Aging 1995	3.28	.58	1.67	.51
Successful Aging 2005	3.32	.50		
Concerns about Aging 1995	1.83	.41	2.06	.04
Concerns about Aging 2005	1.90	.42		
Generativity 1995	2.39	.70	.76	.45
Generativity 2005	2.42	.39		

Note. For all scales, higher scores are indicative of more extreme responding in the direction of the construct assessed.

Table 3.5b
Comparison of 1996 and 2005 Successful Aging and Personality Indicator Means and Standard Deviations for Radcliffe participants (N = 79)

Variable	Mean	SD	t (71)	p
Successful Aging 1996	3.30	.58	3.42	.001
Successful Aging 2005	3.63	.87		
Concerns about Aging 1996	1.83	.41	2.01	.09
Concerns about Aging 2005	1.91	.42		
Generativity 1996	2.38	.35	.80	.43
Generativity 2005	2.43	.40		

Note. For all scales, higher scores are indicative of more extreme responding in the direction of the construct assessed.

Relationships between Personality and Successful Aging Over Time

To test the hypotheses about the relationships of successful aging to generativity and concerns about aging, I conducted hierarchical linear model (HLM) regression analyses. HLM is a hierarchical procedure, in that it involves first assessing individual-level change and second individual-level differences in change, if they exist (Bryk & Raudenbush, 1992). Therefore, personality measures were entered into models to predict change in successful aging from 1995/1996 to 2005. Table 3.6 presents the two regressions.

Table 3.6
*Hierarchical Multiple Regression Analyses Predicting Successful Aging (2005) from
 Generativity and Concerns about Aging*

Variable	Year	Smith alumnae sample		Radcliffe alumnae sample	
		ΔR^2	β	ΔR^2	β
<i>Step 1</i>		.35***		.27***	
Baseline successful aging	1996		.34***		.30**
Concerns about aging	1996		-.19		-.27
Generativity	1996		.15		.49*
<i>Step 2</i>		.04*		.04*	
Successful aging	1996		.31**		.27*
Concerns about aging	1996		-.03		-.15
Generativity	1996		.05		.16
Concerns about aging	2005		-.31*		-.27
Generativity	2005		.34*		.57**

* $p < 0.05$, ** $p < 0.01$, *** $p < .001$

Predicting Successful Aging in the Smith Sample

Analyses indicated that increased concerns about aging from age 52 to 62 were associated with decreased successful aging. Women in the sample showed increased concerns about aging over the ten year period, and this change was inversely associated

with successful aging. Increased generativity between 1995 and 2005 was positively associated with increased successful aging.

Predicting Successful Aging in the Radcliffe Sample

Analyses indicated that increased generativity between 1995 and 2005 was positively associated with increases in successful aging. Increased concerns about aging were not significantly associated with successful aging in Radcliffe women.

Discussion of the Results for Study 2

The relationships between generativity, concerns about aging and successful aging were assessed in two samples of women at ages 52 and 62. There were several consistencies across both samples, and the results generally support the findings of Study 1. In both the Smith and Radcliffe samples, concerns about aging and generativity at age 52 and age 62 were associated with successful aging at 62. In addition, among Smith alumnae, increased concerns about aging over time were associated with decreased successful aging, and increased generativity over time was associated with increased successful aging. In Radcliffe, increased generativity over time was associated with increased successful aging, but increased concerns about aging did not reach significance.

Concerns about Aging

The results of these analyses from both samples generally amplify the findings in Study 1. Evidence supports the hypothesis that concerns about aging would increase from age 52 to age 62. In addition, increased concerns about aging were associated with lower increases or decreases in successful aging over time among Smith respondents.

Thus, increases in aging concerns hindered successful aging in at least one sample, as hypothesized. This finding confirms, as previous research has found, not only that worry and anxiety about aging perceptions are intensified with age, but that they interfere with successful aging. It is possible that preoccupations with aging worries inhibits abilities to stay actively involved with life and may also be related to physical health concerns. The same relationship can be observed in the Radcliffe sample, although to a lesser, non-significant magnitude. Although the relationship between concern about aging and successful aging clearly has a more robust relationship in the Smith sample, the small difference in the magnitude of the correlations suggests caution in interpreting the lack of significance in the Radcliffe sample. Additional research may clarify the implications of various types of aging concerns as well as identify possible mechanisms (personality traits, coping mechanisms) by which aging concerns affect mental and physical health outcomes.

Generativity

These data show that increases in generativity were positively associated with increases in successful aging in both samples. These findings confirm the positive cross-sectional relationship between generativity and successful aging found in Study 1. Similarly, other studies show that generativity predicts positive personality characteristics and successful aging at midlife and later midlife (McAdams et al., 1993; Peterson & Duncan, 2007; Vaillant & Mukamal, 2001). It is likely that women who express stronger feelings of generativity over time may perform acts and/or behaviors that are considered generative and productive (such as community involvement and civic engagement) that are also related to aspects of positive aging.

Thus, it is possible that the benefits of generativity are attributable to generative behavior, intrinsic motivations and their association with positive affect (Huta & Zuroff, 2007; McAdams et al., 1993). The relationship between volunteerism and mental health, for example, is based on assumptions about the behaviors of volunteers. Research examining outcomes of volunteering suggests that there are links between social integration and subjective evaluations of well-being, based on the theory that social integration allows for the addition of social roles/ties (House, Landis, & Umberson, 1988; Thoits and Hewitt, 2001; VanWilligen, 2000; Wheeler, Gorey, & Greenblatt, 1998). Similarly, formal volunteering is linked to reductions in stress and depression, thought to be associated with performing good deeds and helping others (see Gottlieb & Gillespie, 2008 for a review of volunteerism, engagement and health). Similar claims have been made regarding the relationship between altruism and health, suggesting either that people who are inclined to volunteer have characteristics that promote healthy habits, or the act of participating in voluntary acts has benefits (Morrow-Howell et al., 2003; Musick et al., 1999; Thoits & Hewitt, 2001; Van Willigan, 2000).

Because generativity is based on concern for future generations as well as situating the self in a larger context, it makes sense that generativity has important implications for successful aging. First, future orientation indicates a positive outlook on life; studies have shown significant associations between future orientation and health preventative behaviors, such as exercise, a key component of late-life proactivity (Kahana, Kahana, & Zhang, 2005). Further, generativity is related to social engagement, development of social ties and volunteerism, all of which have been associated with increased physical activity, delayed mortality and a general sense of overall well-being

(Harris & Thoresen, 2005; Musick & Wilson, 2003). Over time, sustained commitment to such activities or an increase in participating in generative acts promotes positive outcomes, as these findings suggest. Although the longitudinal design of this study provided confirmation of the cross-sectional results of Study 1, additional research is needed to elucidate the precise mechanisms through which the generativity – well-being relationship operates. In addition, distinctions between past generative accomplishments, current generative feelings and how these factors relate to physical health and activity warrant additional examination.

STUDY 3: STRESS AND PERSONAL RESOURCES AMONG WOMEN OF THE WOMEN'S LIFE PATHS STUDY

Sample and Participant Selection

Data collected in 2008 (previously described in Study 1) from the University of Michigan sample (WLPS) were used for this study.

Measures

Two separate measures – subjective health and successful aging – were modeled as outcomes.

Subjective health and well-being. The subjective general health measure is a subscale of the Short Form (SF-36) Medical Outcomes Study adapted from the Study of Women's Health Across the Nation, National Institute of Aging and National Institute of Nursing Research (Ware & Sherbourne, 1992). The SF-36 is a multi-purpose, short-form health survey with 36 questions. It yields an 8-scale profile of functional health and well-being scores. It is a generic measure, as opposed to one that targets a specific age,

disease, or treatment group. Accordingly, the SF-36 has proven useful in surveys of general and specific populations, comparing the relative burden of diseases, and in differentiating the health benefits produced by a wide range of different treatments. This version has been validated in several studies and to date, use of the SF-36 is documented in over 4,000 publications. Factor analytic studies have confirmed physical and mental health factors that account for 80-85% of the reliable variance in the eight scales in the U.S. general population (McHorney, Ware, Lu, & Sherbourne, 1994).

The complete SF-36 measure is composed of eight scales, one of which is the general subjective health scale. The modified 3-item version of this scale used in the current study evaluated perceived health and mental health as is indicated by the respondent. Items included, “In general, I would rate my health as” where responses ranged from “1 (poor)” to “5 (excellent)”, “I seem to get sick a little easier than other people” and “I am as healthy as anybody I know”. Responses for these two items ranged from “1 (strongly disagree)” to “6 (strongly agree)”. The mean score for the WLPS sample was 4.55 (SD = 1.31) and the internal consistency was .75.

Successful aging. In the current study, successful aging was assessed with the same measure used in Study 1 and includes the same three domains: (1) perceived general health, (2) life satisfaction, and (3) active involvement.

Two potential stressors were examined for their relationship with subjective health and successful aging. Prior research suggests that both perceived discrimination and caregiving have adverse effects for health; thus, direct and indirect relationships with health were examined, using a composite measure of stress where the individual

subscales below are aggregated under the assumption that both discriminatory hassles and caregiving contribute to cumulative stress.

Discriminatory hassles. Discriminatory hassles were measured by a 10-item perceived discrimination scale that has an internal consistency of .87 (see appendix D for a complete list of the items). Experiences of discrimination have been shown to affect health and yield important effects (Biafora, Warheit, Taylor, Vega, Zimmerman, & Gil, 1993; Caldwell, Guthrie, & Jackson, 2006; Klonoff, Landrine, & Ullman, 1999; Landrine & Klonoff, 1996; Lincoln, Chatters, Taylor, & Jackson, 2007; Williams & Mohammed, 2009). This scale was modified for the current study to include information relating to frequency of experiencing everyday hassles and perception of the underlying reason for discrimination (e.g., sexual orientation, gender, race). Sample items include “You are treated with less courtesy than other people” and “People act as if you are less intelligent.” Respondents indicated whether these instances never happened (1) or happened often (4) to them. In this sample the mean response was 1.71 (SD = .51). Several studies indicate that responses to perceived discrimination may vary. Lykes (1983), for example, found some African-American women responded to experiences of discrimination with direct confrontation, whereas others ignored them. Situational context may be important in differentiating interpretations of and responses to discriminatory hassles.

Caregiving. A two-item measure of caregiving asked respondents to indicate whether they were currently providing care to a spouse or a relative (1) or not (0), or if they had provided care in the past (see appendix E for a complete list of the items). Both items were summed and analyzed as a categorical variable to represent varying levels of

cumulative stress. For example, respondents who were currently providing care and had provided care in the past received the highest score (3), while individuals who were only currently providing care received the next highest score (2), and those who provided care only in the past received the lowest score (1).

Studies indicate that many informal caregivers (i.e., family members or friends who provide care rather than a professional who is reimbursed for services) are generally ill-prepared for their role and provide care with little or no support (Navaie-Waliser et al., 2002; Pinquart & Sorensen, 2003a; 2003b; Whitlatch, Feinberg, & Sebesta, 1997). In fact, more than one-third of caregivers continue to provide intense care to others while suffering from poor health themselves (Schulz, O'Brien, Bookwals, & Fleissner, 1995). A substantial body of research shows that individuals who provide care to family members with chronic or disabling conditions are themselves at risk for severe emotional, mental, and physical health problems that arise from complex caregiving situations and the strains of caring for frail or disabled relatives (Vitaliano, Zhang, & Scanlan, 2003). Women are especially susceptible to these risks, compared with their male counterparts, especially when they receive little or no social support (Chadiha, Rafferty, & Pickard, 2003). Increased levels of stress, anxiety, depression and other mental health effects are common among family members who care for others (Marks, Lambert, & Choi, 2002; Navaie-Waliser et al., 2002; Pinquart & Sorensen, 2003a; Schulz, O'Brien, Bookwals, & Fleissner, 1995; Schulz, Newsom, Mittelmark, Burton, Hirsch, & Jackson, 1997; Whitlatch, Feinberg, & Sebesta, 1997).

Prior research suggests that positive personal resources may buffer the effects of stress. Three individual scales were aggregated as a composite resource variable and this

measure was examined as a potential moderator in the relationship between stress with subjective health and successful aging.

Self-efficacy. In the current study, self-efficacy was measured by two scales: confident power and coping self-efficacy (see appendix F for a complete list of the items). Self-efficacy represents the belief that events are under individual control and individuals have the capacity to produce a desired result (Bandura, 1977; 1982; 2001). For example, a person with high self-efficacy may engage in more proactive, health-related activities when an illness occurs, whereas a person with low self-efficacy might harbor feelings of hopelessness (Matsushima & Shiomi, 2003). Smith (1989) notes that adaptive coping is positively associated with self-efficacy. Coping self-efficacy, the measure used in this study, has been primarily examined in studies of terminally or chronically ill adults where persons who have a stronger belief in their ability to recover generally have experienced more progress than those with lower levels of coping self-efficacy (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003; Chesney, Neilands, Chambers, Taylor, & Folkman, 2006; Roberts & Silverio, 2009). In the current study, Chesney and colleagues' thirteen-item coping self-efficacy (CSE) inventory assessed how individuals might deal with common stressors, challenges and threats. Sample items included "I think about one part of the problem at a time" and "I leave options open when things get stressful." Responses ranged from "0 (cannot do at all)" to "10 (certain I can do this)".

Confident power is an expression of mastery and competence that is a reasonable outcome of earlier stages of psychosocial development (in childhood, adolescence and young adulthood), in which personal autonomy and identity are developed, and a sense of

industry, initiative and purpose are secured (Erikson, 1963; 1968; Neugarten, 1968; Stewart et al., 2001; see also Helson & Wink, 1992). Research indicates varying levels of perceived competence by age, but these attributions are often correlated with a sense of well-being, particularly among the middle-aged (Helson & Moane, 1987; Jones & Meredith, 1996; Stewart et al., 2001). Related research reveals positive relationships between self-efficacy, empowerment and health (Clark, 1989; Checkoway, Schulz, & Zimmerman, 1994; Gutierrez, 1994; Israel, Rowe, & Kahn, 1998; Zimmerman, 1995). Confident power was measured according to a six-item scale (Stewart et al., 2001; Zucker et al., 2002). Sample items included, “I feel confident,” “I feel I have the authority to do what I want” and “I have an accurate view of my powers and limitations” (see Stewart et al., 2001, for full description). A total score for all items (both confident power and CSE) was calculated as a global measure of self-efficacy; the internal consistency of this measure was .90. See appendix F for a complete list of the items.

Religiosity/Spirituality. Several studies indicate that a commitment to religious or spiritual beliefs often buffers the effects of stress and/or hardship and is related to positive mental health (Bergin, 1983; Koenig, McCullough, & Larson, 2001; Larson et al., 1992; Levin & Chatters, 1998; Stark, 1971). While some have argued this relationship is confounded by other variables (people who are religious have healthier behaviors or the benefits may be more attributable to the social contact one receives during religious services), there still appears to be a consistent, albeit modest, relationship between religion/spirituality and health. Religiosity/spirituality was measured in the current study by a two-item measure, where responses could have ranged from “1 (not at all)” to “4 (a great deal)”. The items were, “For you to be happiest and most

comfortable, how much do you need to achieve spiritual growth?” and “How important is spirituality/religion in your life?” The internal consistency of this scale was .91. A total score was calculated and on average, respondents indicated that spirituality/religion mattered at least ‘a little’ (Mean = 2.2, SD = .38).

In the current study I also examined the effects of race and class. Race was self-reported by respondents who indicated membership in one of nine racial-ethnic categories (see Appendix J). SEP included socioeconomic background as a proxy for socioeconomic position. Although most women in this sample had a moderate or high level of education and income in 2008 (i.e., either middle or upper-middle class), the respondents vary in early life socioeconomic indicators such as level of parental education and occupation. Therefore, in order to assess class effects in this relatively homogenous sample, socioeconomic background was used to estimate SEP. Early life socioeconomic position was assessed by self-reports of parental (both mother and father) education and occupation. Measures were originally combined in a 3-point socioeconomic position scale (e.g., low, moderate, high); however, given the small number of women who were classified as “moderate,” a dichotomous variable was created to indicate “high” (N = 127) and “low” where the “low” category included women who were originally scored as moderate and low (N = 22). Comparisons on major descriptive variables (e.g., age) indicate little difference between low-SEP women and the overall sample. However, low-SEP women were more likely to be Black ($p < .001$) and low-SEP women evaluated their health as somewhat lower compared to the overall sample (Mean difference = .53, $p = .07$). Given that the current study assesses childhood class background in a sample that is homogeneous with respect to current

occupation and education, SEP is operationalized in a way that assesses the effect of early life socioeconomic indicators on health outcomes. See appendix I for a complete list of the items.

Data Analyses

Relationships between potential stressors, personal resources, successful aging and subjective health were examined in 2008 using multivariate regression models. To assess potential differences by race and socioeconomic position, product terms were added to the final model; continuous variables assessing generativity and concern about aging were centered prior to computing the interaction term (Aiken & West, 1991; Judd & McClelland, 1993). Moderated multiple regression analyses yielded results shown in all tables and figures.

Results

The main effects of a measure of cumulative stress on subjective health and successful aging were assessed. A composite personal resource measure represented by self-efficacy and religiosity/spirituality was examined as a potential moderator of the relationship between cumulative stress and health. Relationships were examined using multivariate regression models. Interactions by race and class were explored, and while no significant interactions by either variable were found, there were significant mean differences for several indicators (See Table 3.7a and 3.7b). Black women indicated significantly more experiences with perceived discriminatory hassles ($p < .001$), compared to White women. Black women also scored significantly higher on two of the three cumulative self-efficacy indicators, coping self-efficacy ($p < .01$) and religiosity (p

< .001). There were no other significant mean differences between the two groups.

Table 3.7b presents mean differences by low and high-SEP groups. Low-SEP women indicated slightly more experiences with discriminatory hassles ($p < .05$) and higher evaluations of religiosity/spirituality ($p < .05$).

Table 3.7a
Comparison of Stress and Personal Resource Means between Black and White Women

	Black	White
Successful aging 2008	4.01 (SD = .75)	4.12 (SD = .88)
Subjective health 2008	4.12 (SD = 1.02)	4.21 (SD = 1.15)
Discriminatory hassles	2.06 (SD = .50)***	1.53 (SD = .42)
Caregiving	1.55 (SD = 1.14)	1.64 (SD = 1.10)
Confident power	2.47 (SD = .42)	2.39 (SD = .41)
Coping self-efficacy	7.89 (SD = 1.33)**	7.37 (SD = 1.41)
Religiosity/spirituality	3.27 (SD = .80)***	2.44 (SD = 1.00)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3.7b
Comparison of Stress and Personal Resource Means between High-SEP and Low-SEP Women

	Low SEP	High SEP
Successful aging 2008	4.05 (SD = .86)	4.13 (SD = .87)
Subjective health 2008	4.12 (SD = 1.15)	4.24 (SD = 1.13)
Discriminatory hassles	2.01 (SD = .63)*	1.64 (SD = .48)
Caregiving	1.33 (SD = 1.07)	1.71 (SD = 1.10)
Confident power	2.33 (SD = .33)	2.43 (SD = .42)
Coping self-efficacy	7.88 (SD = .77)	7.49 (SD = .82)
Religiosity/spirituality	3.25 (SD = .81)*	2.62 (SD = 1.04)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3.8a presents the bivariate correlations between indicators used to comprise the aggregate variables indicating stress and personal resources, respectively. Results are presented for the entire sample for each outcome: subjective health and successful aging. Discriminatory hassles were negatively associated with both subjective health and

successful aging. There was not a significant relationship, however, between caregiving and either health outcome. Subgroup analyses indicate that there were also no significant differences on health outcomes as a function of particular family caregiver roles (e.g., daughter vs. wife caregivers) in the present study. Table 3.8b shows bivariate correlations for all variables.

Both confident power and coping self-efficacy were positively associated with successful aging; however, only confident power was a significant correlate of subjective health. There was not a significant relationship between religiosity/spirituality and either health outcome.

Table 3.8a
Bivariate Correlations Between Stress and Resource Indicators and Health Outcomes

		University of Michigan alumnae	
		Subjective Health 2008	Successful Aging 2008
Stressors	Discriminatory hassles	-.19**	-.21***
	Caregiving	-.02	-.02
Resources	Religiosity/spirituality	.03	.02
	Confident power	.13*	.24***
	Coping self-efficacy	.09	.19**

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3.8b
Bivariate Correlations among Variables for WLPS sample

	Subjective Health	Successful Aging	Caregiving	Discrimination	Religiosity	Confident Power	Coping Self-Efficacy
Subjective Health	-	.946***	-.016	-.192**	.025	.125*	.091
Successful Aging	.946***	-	-.024	.209***	.024	.243***	.194**
Caregiving	-.016	-.024	-	.090	.021	-.005	-.026
Discrimination	-.192**	-.209***	.090	-	.192**	-.064	-.062
Religiosity	.025	.024	.021	.192**	-	.137*	.238***
Confident Power	.125*	.243***	-.005	-.064	.137*	-	.447***
Coping Self-Efficacy	.091	.194**	-.026	-.062	.238***	.447***	-

* $p < 0.05$, ** $p < 0.01$, *** $p < .001$

After aggregating cumulative measures of stress and personal resources, a significant relationship was found between cumulative stress and both health outcomes: subjective health and successful aging. When examining potential moderation by personality resources in a multivariate model, the interaction between cumulative resources and stress was significant (Table 3.9a; Figure 3.2), such that high levels of stress had an adverse effect on subjective health for those with low levels of resources (i.e., self-efficacy and religiosity/spirituality). Similarly, stress was a significant predictor of lower successful aging among those with fewer personal resources (Table 3.9b; see also Figure 3.3).

Table 3.9a

Moderation by Resources of the Relationship Between Cumulative Stress and Subjective Health in WLPS Women

Predictor	Model 1	Model 2	Model 3
	β	B	B
Prior Health (1992)	.39***	.40***	.37*
Race/ethnicity	-.04	-.05	-.09
Socioeconomic Position	.10	.13	.19
Cumulative Stress		-.05	-.03
Personality Resources		.17 [†]	.22*
Cumulative Stress x Personality Resources			.34***
Race x Cumulative Stress			-.11
Race x Personality Resources			.09
SEP x Cumulative Stress			.02
SEP x Personal Resources			-.18
R-square	.11	.13	.20

Note: N = 150. [†] < .10, * p < 0.05, ** p < 0.01, *** p < .001

Figure 3.2. *Moderation of the Relationship Between Stress and Subjective Health*

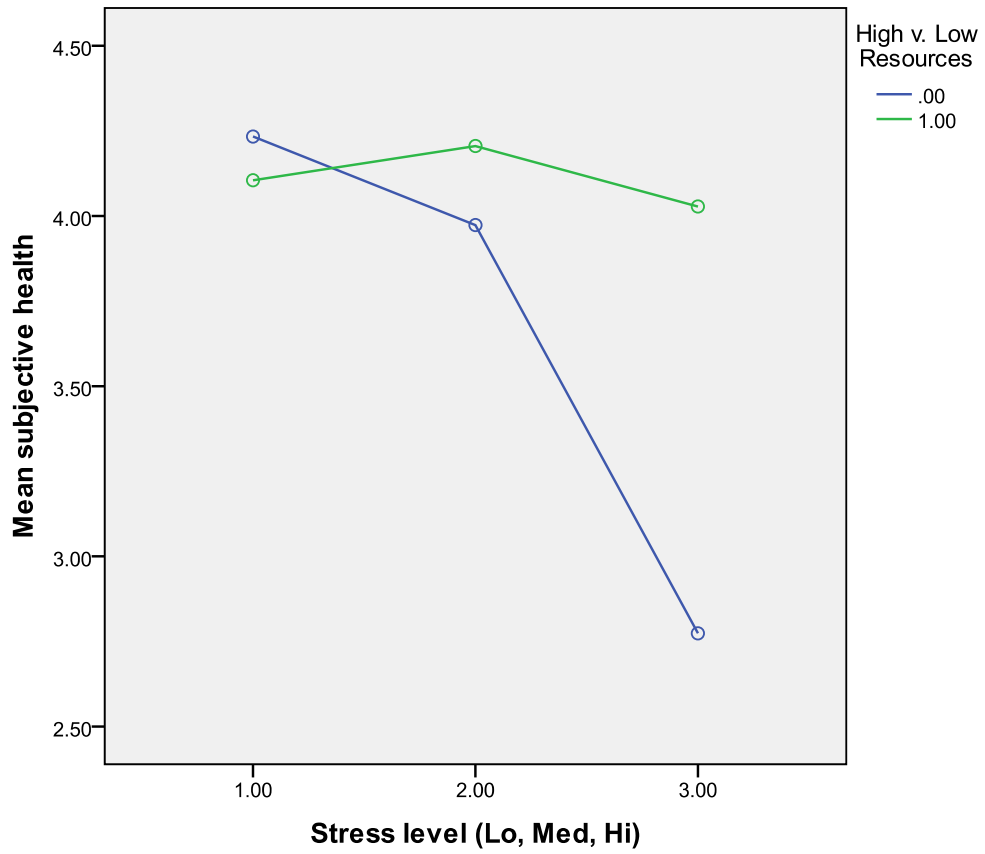
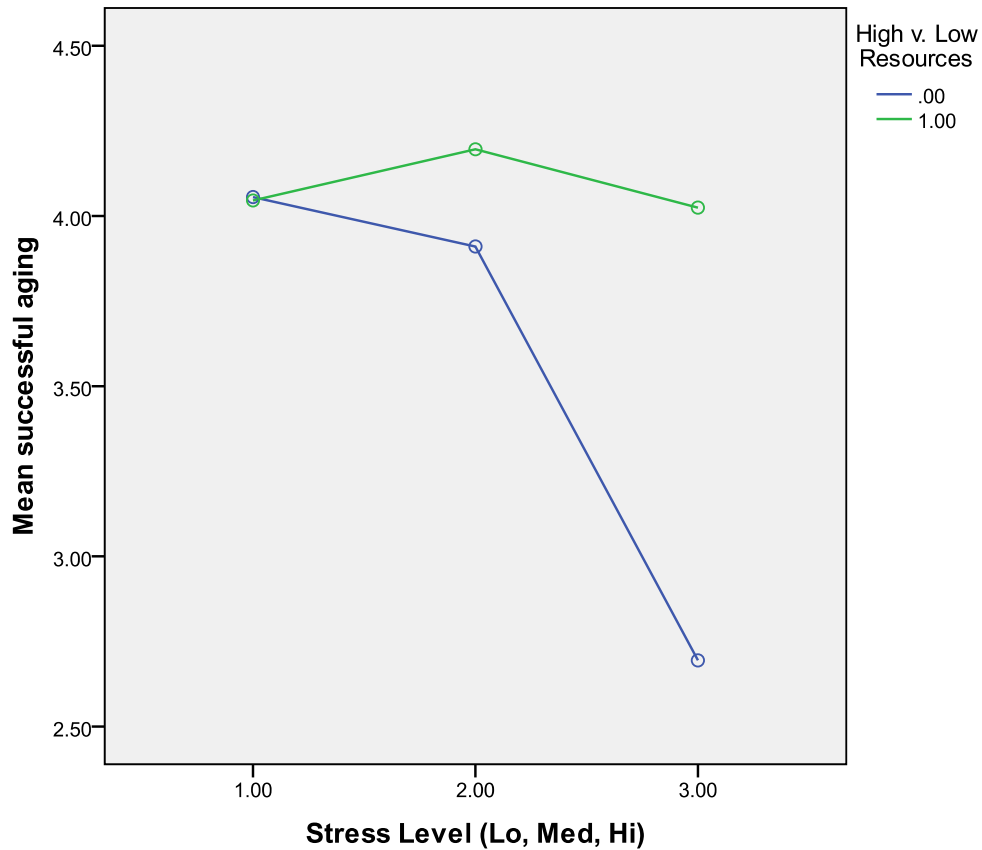


Table 3.9b
Moderation by Resources of the Relationship Between Cumulative Stress and Successful Aging in WLPS Women

Predictor	Model 1	Model 2	Model 3
	β	β	β
Prior Health (1992)	.31***	.32***	.30***
Race/ethnicity	.01	-.11	-.12
Socioeconomic Position	.06	.09	.12
Cumulative Stress		-.20	-.01
Personality Resources		.21	.23**
Cumulative Stress x Personality Resources			.23**
Race x Cumulative Stress			-.06
Race x Personal Resources			.01
SEP x Cumulative Stress			-.00
SEP x Personal Resources			-.18
R-square	.12	.17	.22

Note: N = 150. † < .10, * p < 0.05, ** p < 0.01, *** p < .001

Figure 3.3 *Moderation of the Relationship Between Stress and Successful Aging*



Marital status was also examined in post-hoc analyses as a potential source of support due to research that indicates marital status is a positive resource in relation to stress and aging. There were positive correlations between 2008 marital status, confident power, socioeconomic position and successful aging; married women reported higher mean levels of successful aging (MD = .21, $p = .05$), confident power (MD = .35, $p < .01$) and SEP ($p = .07$). Marital status was negatively associated with discriminatory hassles and religiosity; thus, married women reported fewer experiences with perceived discrimination (MD = .22, $p < .05$) and lower religiosity (MD = .45, $p < .001$). Controlling for marital status, however, did not affect the relationships between cumulative stress, resources and health. It is important to note that although race does

not interact with these variables, marital status differs by race-ethnicity (with White women more likely to be married). Thus, marital status may need more careful study in a sample where there large enough numbers of married and unmarried Black and White women to separate the impact of marital status for the two racial-ethnic groups.

Discussion of the Results for Study 3

Bivariate correlations indicated a significant relationship between cumulative stress and health. Yet while the discriminatory hassles subscale was negatively associated with both subjective health and successful aging, caregiving was not. This finding supports previous research that suggests perceived discrimination is a significant stressor.

Caregiving has been found to negatively affect health in prior research (Buhr, Kuchibhatla, & Clipp, 2006; Whitlatch, Feinberg, & Sebesta, 1997; Whitlatch, Feinberg, & Stevens, 1999), yet no support was found in the WLPS sample for this relationship.

Recall that in the current study, respondents were considered most stressed if they provided care to others both presently and in the past, somewhat stressed if they either provided care in the past or were currently providing care, and ‘minimally’ stressed if they reported they had never provided care, currently or in the past. Thirteen percent (13.3%) of the women in the sample were currently providing care to a spouse or family member, and over thirty percent (36.5%) had provided caregiving in the past. Thirty-three percent (33.2%) provided care both currently and the past, while seventeen percent had never provided care.

While the measure used in this study crudely assessed cumulative caregiving, a more detailed assessment of the nature of care – intensity, social support, duration and context – may be necessary for predicting negative health effects. Thus, whether respondents are continually caring for a severely disabled person over a long period of time may yield very different effects than short-term care. The contrasting "adaptation hypothesis" suggests that caregiving demands are strongest when caregiving begins, but subjective stress may level off or diminish over time because of a variety of processes within the caregiver's life, such as learning how to perform new caregiving tasks or establishing new adaptation levels for one's own behaviors and psychological states (Helson 1964). In relatively recent studies with large population-based samples, about one third of caregivers reported neither strain nor negative health effects (Pinquart & Sorensen, 2003; Schulz et al., 1997). Caregiving respondents from these studies generally reported that caregiving made them feel good about themselves and as if they were needed, gave meaning to their lives, enabled them to learn new skills, and strengthened their relationships with others. Therefore, there may not always be negative effects on people who are both caregiving currently and have provided care in the past. Stommel, Given and Given (1998) found that patterns of caregiving labor division significantly affected the experience of caregiving and predicts racial differences between Black and White family caregivers. Recent work has also suggested that family members may have different experiences in providing care. For example, Rozario, Chadiha, Proctor and Morrow-Howell (2008) found that family functioning, availability of secondary help and social participation were associated with depressive symptoms among African-American daughter caregivers. I did not, however, find significant differences in

health outcomes between daughter and wife caregivers in the present study, possibly due to limited subgroup sample size.

In sum, there may be contextual complexity associated with caregiving that is not adequately captured in this study that affects whether the caregiving experience becomes stressful. Similarly, the high socioeconomic status of the women in this study may mean that resources that were available to these women to enlist additional help and support to assist with caregiving duties minimized some sources of stress. Finally, there is limited evidence to support the ‘wear-and-tear’ caregiving model that caregivers endure more psychological and physical distress than non-caregivers (Townsend, Noelker, Deimling, & Bass, 1989). Several initial reports that were used to support this claim were based on caregiver-only data and cross-sectional comparisons of caregivers and non-caregivers (Schulz et al., 1995). The contrasting adaptation model, referenced earlier, highlighted the positive aspects of caregiving such as enabling the caregiver to feel useful, important and competent (Cohen, Colantonio, & Vernich, 2002).

The current study also assessed everyday discriminatory hassles such as receiving worse service than others at restaurants or stores. Complementary research using this measure found that over time, chronic, low-level stress from such incidents may increase the risk for heart disease and cardiovascular-related ills, such as coronary artery calcification and hypertension (Everson-Rose & Lewis, 2005; Lewis, Barnes, Bienias, Lackland, Evans, & Mendes de Leon, 2009; Lewis et al., 2006).

The hypothesis that discrimination affects health, though gaining support in the literature, remains a somewhat controversial theory, due to the difficulty in separating out the effects of perception of discrimination and other factors, such as diet, lifestyle,

personality and cultural differences (Williams, Neighbors, & Jackson, 2008). A meta-analysis showed that across 134 samples, perceived discrimination has a negative effect on mental and physical health outcomes and also produces significantly heightened responses to stress, suggesting several potential pathways linking perceived discrimination to worse health outcomes (Pascoe & Smart-Richman, 2009). In this study, significant negative relationships between discriminatory hassles, subjective health and successful aging were found. However, in multivariate models using a composite stress measure and composite resources measure a negative relationship between stress and health was found to only be significant for women with low levels of personal resources.

Personal Resources as a Moderator

Moderators may attenuate the effects of stressors or change the situations that are producing the stressors. Among the three common types of moderators/mediators of the stress-health relationship (coping strategies, personal resources and social support), the role of personal resources was examined. Personal resources often include a sense of self-mastery or control over life and the environment, as well as one's self-esteem. Little research has examined confident power and coping self-efficacy together as a combined personal resource, and findings about the role of religiosity as a buffer against stress have been mixed. The current study found a significant positive relationship with self-efficacy indicators and health outcomes, but no significant relationship between religiosity/spirituality and health. Final analyses showed that at high levels of stress, respondents scoring low on personal resources had significantly worse subjective health and less successful aging, compared to participants with high scores on these measures. There were no significant differences between high and low resource groups for those

who report very low/minimal amounts of stress. Thus, assuming that life stress is unavoidable and may be experienced chronically for some individuals, these findings suggest that having personal resources such as a high level of self-efficacy is beneficial in mitigating the effects of stressful life experiences, particularly those related to perceived discrimination.

Further analyses showed no significant differences in the relationships for Black women and White women in this sample, nor for women of high versus low socioeconomic position. Although generally social identity may shape not only exposure to stressors, but the ways in which stress is handled, it is possible that the relatively high current socioeconomic status of the sample women provided some protection (e.g., access to resources; multiple options for managing caregiving and discriminatory hassles) from the intense, negative effects of these particular stressors. Research shows that socioeconomic advantage confers better health; at lower positions on the socioeconomic hierarchy, one may not only be more subject to chronic stressors that can lead to allostatic load, but also may have fewer opportunities to engage in health-promoting behaviors (e.g., exercise, stress-reduction techniques) that could help to buffer the adverse effects of stress responses. Current socioeconomic position may also help explain the lack of relationship between religion and health as some studies suggest religiosity is a positive predictor of health, but only for severe physical health problems, and only for resource-poor groups (e.g., those whose annual income is below the national medium; Koch, 2008). The relationship between religiosity and health may also be confounded by race; Ferraro and Koch (1994) noted that the positive relationship between religious belief, practice, and health outcomes was significant for African-Americans, but not for Whites.

While I did find that Black respondents reported higher mean levels of religious/spiritual importance compared to White women, overall there were no significant interactions between race and personal resources.

In interpreting these findings, race and class are somewhat confounded in the current study, as is often the case when examining such effects. I attempted to capture meaningful differences for each variable by focusing on social class origins as well as current position; however, due to relatively small subgroup sample sizes higher order interaction analyses were not likely to produce stable, reliable results. Therefore, future research should include more heterogeneous samples to thoroughly examine these relationships in large, population-based studies.

CHAPTER IV

DISCUSSION

This research demonstrated several important relationships between personality and successful aging in three samples of women. The first study examined the relationship between successful aging and personality development indicators, generativity and concerns about aging. Evidence was found to support the hypotheses that generativity positively correlated and concerns about aging negatively correlated with successful aging, after controlling for baseline successful aging. These relationships did not differ by race or class in a sample of women that included both Black and White college-educated women from varying class backgrounds.

The second study examined the same hypotheses that generativity and concerns about aging would be related to successful aging over time in two samples of predominantly White college-educated women. Using longitudinal data available for both samples, results indicate that increased concerns about aging over a ten-year period were associated with decreased levels of successful aging in at least one sample. Increased generativity was associated with decreased successful aging over time in both samples.

Finally, support was found for hypothesis three that stress was negatively related to successful aging and subjective health, and that this relationship was moderated by personal resources. Thus the effects of stress were detrimental among women with high levels of stress and low levels of personal resources, but not among those with high stress and high resources.

Taken together, all three studies examined relationships between personality and successful aging and broaden our knowledge about the ways in which personality may contribute to successful aging among older adults. The first two studies focused on personality development as a correlate of successful aging within and over time. Thus, person characteristics that have been described in the literature as hallmarks of midlife development were found to have significant associations with successful aging. In examining developmental factors and personal resources rather than other traditionally studied aspects of personality (e.g., traits, emotions), we gain a more nuanced understanding of the impact personal strengths and psychological maturity have on the ability to age well. This research yields new information about the association between individual differences and health outcomes.

This research has demonstrated several ways in which personality and person-characteristics may be an important path to realizing successful aging; yet personality is not generally acknowledged as a significant contributor to successful aging (Hooker & McAdams, 2003). Current knowledge about optimal aging has focused on the importance of maintaining good health-related behaviors and lifestyle – proper diet and exercise as well as establishing strong social networks. Yet while personality is likely the driving force behind these behaviors, little is known about the *person* for whom these protective factors are relevant. It seems that the type of person you become over the life course is a primary factor in understanding individual needs for social support, the utilization of coping strategies, reactions to stress, and other processes. The study of personality in later life and its contribution to successful aging has rarely been examined in this way, perhaps due to the strong focus in the literature on personality stability in

adulthood (thus implying that it is not open for intervention or change), and the dominance of the trait framework in personality and health research.

Concerns about Aging, Generativity and Successful Aging

At the core, aging well refers not only to the ability to live longer, but the ability to enjoy a certain quality of life as well. For many older adults, having a chronic condition or being at risk for a chronic condition does not preclude them from leading a fulfilling and rewarding life. As previous research suggests, often it is the emotional and psychological burden of aging that takes the greatest toll (Carstensen, Isaacowitz, & Charles, 1999; Charles, Mather, & Carstensen, 2003). Growing older is likely to encourage reflection about life, transition and the tasks one has accomplished during life. These reflections may or may not entail worries or anxiety about aging. In fact, studies have found that younger people generally have more negative views and greater anxiety about their own aging than do older adults, which may reflect their limited knowledge about aging and less frequent contact with older people (Cummings et al., 2000; Kafer et al., 1980; Lasher & Faulkender, 1993; Lynch, 2000). Therefore aging, for some, may represent the accumulation of greater experience with the realities of time's passing, which may relieve personal fears about growing older. On the other hand, passing time may represent missed opportunities, regret and uncertainty about the future. Older adults who feel regret about past choices or interpret their lives as having been a waste could also have serious concerns about getting older and not having an opportunity to accomplish goals or make important contributions. These feelings of inadequacy may lead to severe psychological distress (e.g., depression, anxiety, hopelessness) and lessen

the potential for activity in other areas. Therefore, personality and person-mediated mechanisms in which the individual processes life events (e.g., developmental stages, adaptation and coping) are important in several ways.

This study found that increased concerns about aging may hinder opportunities for optimal aging. This finding could have implications for understanding how attitudes about growing older may influence behavior or psychosocial processes related to health. It is equally important to understand the origins of aging concerns and whether they have similar or different outcomes for different groups of aging adults. For example, someone who is concerned about aging due to a fear of health decline, death or mortality may experience different behavioral patterns and psychological effects than someone who is a generally pessimistic person and expresses concerns about growing older. Future research should explore these complexities, as well as the relationship of aging concerns to prolonged negative emotional states (e.g., depression), as this may be a potential pathway linking aging concerns to health and successful aging. Several studies have found that negative emotional states are directly linked to physiological changes prognostic for illness and to the development of chronic diseases (Friedman & Booth-Kewley, 1987). Psychological states such as depression and anxiety, for instance, have a variety of physiological concomitants and have been related to altered immune processes (Kubzansky et al., 1998; Kubzansky, Kawachi, Weiss, & Sparrow, 1998) and to the development and course of coronary heart disease (Booth-Kewley & Friedman, 1987).

Likewise, having concerns about aging may also operate through a behavioral pathway to influence health. Consistently high levels of worry or concern regarding aging may lead to beliefs about one's perceived power (or lack thereof) to overcome the

challenges associated with aging (Kubzansky, Kawachi, Weiss, & Sparrow, 1998). Negative thoughts over time may lead one to take fewer proactive health actions. The psychological effects of rumination, preoccupation, worry and anxiety could inhibit enjoying the activities of everyday life, thereby limiting exposure to physical movement and social interaction. It is also possible that existing health conditions lead to concerns about aging; however, there is no evidence of this in the current study.

The finding that generativity is associated with successful aging is likely related to behavior as well as the psychological maturity that describes this stage of development. From one perspective, assessing development as a correlate of healthy outcomes in late adulthood makes sense as Erikson's earlier stages of development have been found to promote mental, emotional and social health (Erikson, 1963). During midlife, the development of the adult has evolved in substantial ways and individuals may shift from a 'self-centered' orientation towards an 'other-centered' orientation and begin to concern themselves with creating or producing things of value that will affect others. Erikson conceptualized generativity as a need or drive that is inherently motivating to individuals. He described a shift of attention to needs or concerns beyond the self, and a simultaneous motivation to produce, create, or effect a change. Inherent in this conceptualization of generativity is the idea that generativity is healthy and adaptive for individuals. "As a link between the generations, [generativity] is as indispensable for the renewal of the adult generation's own life as it is for that of the next generation" (Erikson, 1980, p. 215). Individuals who fail to achieve generativity in midlife become stagnant, according to Erikson. Becoming stagnant at any particular developmental stage

may lead to regressions to earlier stages, and these regressions are expected to be maladaptive, ultimately leaving individuals feeling unhappy and unfulfilled.

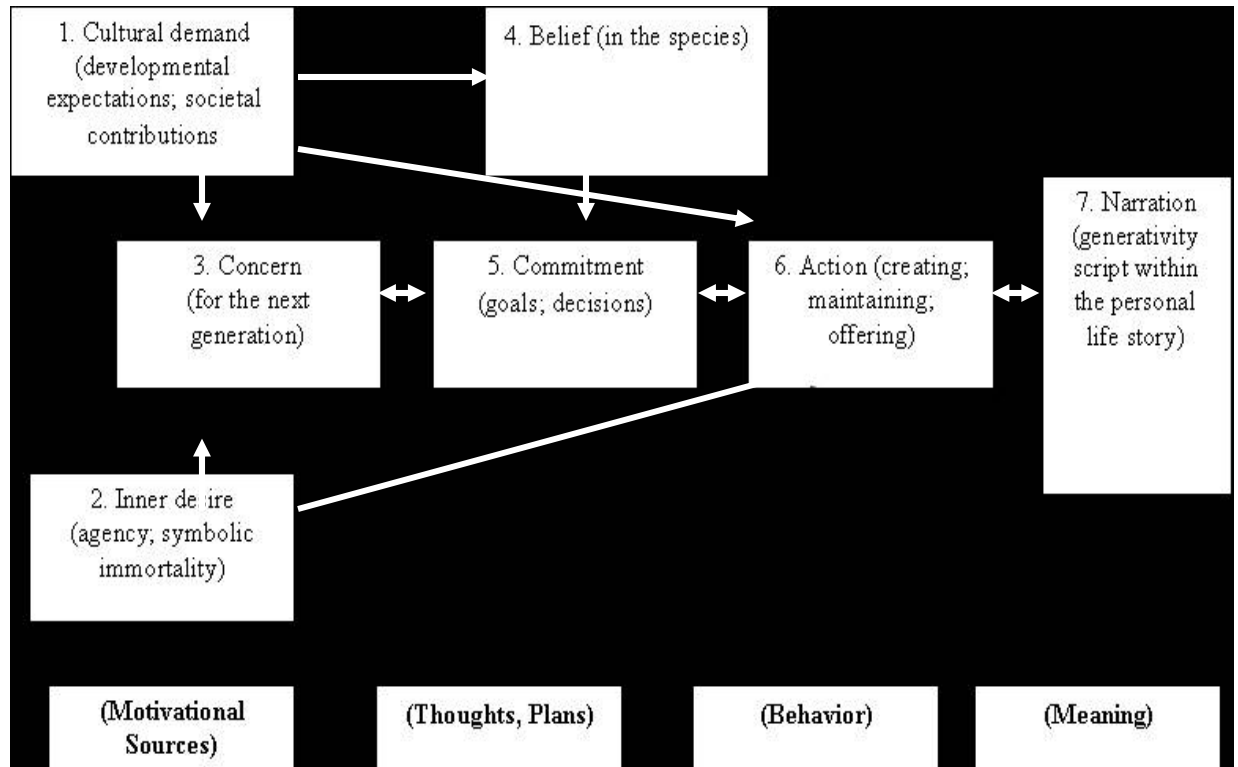
Also relevant to healthy adaptation during midlife, as well as successful aging, is the concept of agency. Both McAdams (1988) and Kotre (1984) argued that the possession of agentic characteristics is necessary for the individual to achieve generativity. Thus human agency, defined as encompassing “a wide range of motivational ideas, including the concepts of strength, power, expansion, mastery, control, dominance, achievement, autonomy, separation, and independence”, may be important for understanding how generativity may be related to health-promoting behaviors (McAdams et al., 1996).

Bandura (1977) describes a model (social cognitive theory) of individuals as social agents who make causal contributions to their own motivations and actions and assume control over daily activities in their lives. Bandura later expanded this model to explain how agency and belief in one’s abilities can be translated to promote healthy behaviors (Bandura, 2001). These social cognitive processes and agency in particular, may provide information as to why people are motivated to produce change for themselves and for future generations.

McAdams and de St. Aubin (1992) proposed a multi-component model of generativity proposing how motivational sources may be translated into action. The model, displayed in figure 4.1, presents cultural demands and inner desires that give rise to generative concern, commitment, and action. Therefore, understanding the world in a larger context and believing that one can have lasting change by cultivating the next generation may also imply a strong sense of belief in one’s individual ability to exert

change - whether in other's lives or their own. For example, generative people may exercise more autonomy about health-related decisions and may have more positive attitudes towards their health in general. Also, the fact that generative people are likely more physically active and more involved in group organizations tied to social networks –implies a behavioral pathway. It is also possible that individuals high in generativity experience some health benefit from helping others, as is suggested by several volunteer studies (Oman, 2007). These studies suggest that the action of helping others may operate as a stress buffer. Hormones that are causally linked to helping behavior, such as oxytocin (Brown & Brown, 2006), initiate a number of intracellular processes that decrease hyperactivity of the HPA (stress) axis (Carter, 1998) and contribute to cellular repair (see Heaphy & Dutton, 2008, for a review). If future work continues to show help-related health benefits, then it will be important to determine whether these effects can be applied to aging well over time. In any case, generativity may be important in integrated models attempting to understand the ways in which personality influences health (see Hooker & McAdams, 2003 for one example).

Figure 4.1 *Features of generativity* (McAdams & de St. Aubin, 1992)



Stress, Personal Resources, Subjective Health and Successful Aging

The third study in this dissertation found that stress, particularly perceived discriminatory hassles, negatively affects successful aging and subjective health. This negative effect was shown to be detrimental to one’s ability to age well if individuals lack the personal resources and support in order to cope with stressful challenges.

In this study, discrimination was assessed as day-to-day experiences with hassles that are perceived as discriminatory. To some extent, this measure captured a time effect that suggests cumulative exposure to ‘daily hassles’ (also termed microaggressions, microinsults and microinvalidations) that may be considered chronic or episodic irritations in everyday life. However, qualifiers were not included that would have

allowed further examination of whether these experiences happened within the last year, last month or continually over one's adult lifespan. Research shows that the association between a stressor and health varies when specific characteristics of the stressful experience are taken into account (Kessler, 1997). Key aspects of stressful life experiences include the magnitude of the event, the domain in which the event occurs, the temporal characteristics of the event, and the nature of the relationship between the stressor in question and other related stressors (Cohen, Kessler & Gordon, 1995). Thus, measurement of discrimination within a temporal context is important for fully understanding the effects of perceived discrimination.

A strength of the measure used in the third study is that these findings were not limited to racial discrimination, but pertain to various forms of unfair treatment. Therefore, all women in the WLPS sample had an opportunity to indicate whether they had experienced discriminatory hassles on the basis of race/ethnicity, gender, physical appearance, income level, age, sexual orientation or other reason. This approach, originally adopted by Williams and colleagues (Williams, Yu, Jackson & Anderson, 1997), frames exposure to discrimination according to identity and allows respondents to report discrimination in multiple social categories.

These findings support existing studies that suggest a link between discrimination and poorer mental and physical health; yet this area of research is still not well understood and current studies have not adequately addressed how exposure to perceived discrimination leads to increased risk of disease (Williams, Neighbors, & Jackson, 2008). For example, it is not clear whether there is a dose-response relationship between discrimination and changes in health status. Presently we do not know the threshold for

exposure to, appraisal of, or response to the stress of discrimination that is necessary to alter disease processes. It is also not clear whether persistent exposure to perceived discrimination varies in effect from one-time experiences of discrimination.

In sum, despite some limitations, a significant relationship was found between reports of perceived discrimination and lower evaluations of subjective health and successful aging. The reason underlying these and other robust findings linking discrimination and health is likely attributable to tangible reactions to perceived discrimination as a stressor. Research has found several relationships between discrimination and cardiovascular responses (e.g., blood pressure) suggesting an emotion-mediated (e.g., anger, sadness, frustration) and stress response pathway to disease (Brandolo, Rieppi, Kelly, & Gerin, 2003; Noh & Kaspar, 2003).

As we evaluate the complex relationship among different types of stressors, another issue is that of clarifying how multiple types of stressors relate to one another. According to research on chronic stress, the effects of cumulative life events can exacerbate existing ongoing strains or even generate new stressors, thus compounding the effects of a single stressor (Pearlin, Lieberman, Menaghan, & Mullan, 1981). Using this rationale, the effects of discriminatory hassles were examined with caregiving as a composite measure of stress. Caregiving, however, was not significantly related to either subjective health or successful aging in the current study. One potential reason for the lack of relationship between caregiving and health outcomes is that the measure used was somewhat limited in assessing the magnitude of caregiving burden. The measure asked respondents to indicate if they had ever provided care to a family member and to name their relationship with that person. However, other details were absent, such as whether

the responsibility of caregiving was considered a burden, the nature of the tasks performed, features of the person cared for, and activities of daily living for the care recipient. Research that has examined the burden perceived by caregivers of older adults has recognized objective and subjective types of burden. Objective burden comprises tangible disruptions caused by caregiving — such as demands on time, effort, and money— and the effects of these disruptions on caregivers' psychological, physiological, social, and economic well-being. Subjective burden refers to caregivers' feelings about their caregiving activities. Objective and subjective burden overlap and share some correlates, although the nature and strength of the correlations differ according to the burden scale used and the correlates examined (Lawton, Kleban, Moss, Rovine, & Glicksman, 1989; Vitaliano, Russo, Young, Becker, & Maiuro, 1991). Understanding caregiving burden would be relevant in understanding informal caregivers' level of relative stress and whether personal resources might be useful, as well as in contextualizing the overall health and well-being of caregivers.

On the other hand, given recent research regarding the positive effects of caregiving coupled with the relatively high level of socioeconomic resources in this sample, it is possible that caregiving is in fact not a significant stressor for these women. As indicated previously, research has shown that there are some positive effects associated with caregiving. These effects are not well understood, but some studies indicate a positive benefit gained from the increased social interaction and social support between caregiver and care recipient. For example, Brown and colleagues (2003) found that spending at least 14 hours per week providing care to a spouse predicted decreased mortality for the caregiver, independent of behavioral and cognitive limitations of the

care recipient and other demographic and health variables. Further, because caregiving is considered a helping behavior, it is possible that (as argued in Study 1), helping behaviors confer positive health benefits as previous studies suggest (Brown et al., 2009; Oman, 2007; Post, 2007).

An alternative explanation involves direct application of the transactional model of appraisal and coping. According to the model, stress can be thought of as resulting from an imbalance between demands and resources or as occurring when “pressure exceeds one's perceived ability to cope” (Lazarus & Folkman, 1984). Considering the stage of life of women in this study, it is likely that although assuming new responsibilities associated with caregiving might provide some stress, it does not exceed one’s ability to cope with those demands. As women in late-midlife who are likely accustomed to managing multiple roles, there may be some expectation that one may have to provide informal care to aging parents or family members. Thus, other arrangements or resources may be available to alleviate some of the burden that otherwise could be overwhelming during an earlier stage of life. Therefore, the ability to manage stress, and thus allow an individual to feel in control of a potentially stressful situation, is important in understanding the differential effects of stress.

Personal resources play a useful role in the transactional model of coping. In first determining why or whether a stimulus is stressful (primary appraisal), the secondary step typically involves considering “what can I do?” (secondary appraisal) (Lazarus & Folkman, 1984). Although several contextual elements influence secondary appraisal, the ways in which people determine how to cope with a stressor depends heavily on the resources that are available to them (and also constraints that might inhibit the use of

these resources). Resources can serve as buffers to stress; a person may draw from them in order to cope with stress (Antonovsky, 1979) or resources may be considered part of the actual coping process (Pearlin & Schooler, 1978). In either case, resources are thought to reduce or lessen the emotional distress associated with stressful events/stimuli. While there are no “right” resources that are universal to alleviating all harmful effects of stress, the transactional model emphasizes having a variety of personal resources and using those most effective and appropriate for the situational context. Major categories of personal resources include positive beliefs (a psychological resource) and problem-solving and social skills (competencies) (Lazarus & Folkman, 1984).

Positive beliefs are described as viewing oneself positively and thinking that outcomes are controllable – either by themselves or another person (e.g., a doctor or God). While the current study does not assess ‘positive beliefs’ per se, some of the measures in this research could be related to positive beliefs. For example, there were two measures of self-efficacy – confident power and coping self efficacy – that measured attitudes about perceived ability to overcome significant stressors and feelings of confidence, power and assertiveness. Bandura’s social learning theory (1977; 1982) describes self-efficacy as one’s personal assessment of effectiveness, ability or competency to perform a specific behavior successfully. Self-efficacy, then, might be considered a positive belief in self or one’s ability. Earlier studies have shown that preventive self-efficacy, or individuals’ perceptions of their ability to perform specific health behaviors, significantly impacts actual health status and predicts future health behaviors (Bandura, 2001). It is hypothesized that individuals with high-self efficacy are more likely to seek preventive care, exercise more, and rate their health more favorably

than people with lower self-efficacy. Positive beliefs also may be connected to physical disease by promoting better health behaviors. People who have a positive sense of self-worth, belief in their own control, and optimism about the future may be more likely to practice conscientious health habits and use services appropriately.

As psychosocial models include individual factors such as self-efficacy to help explain how personal characteristics might be relevant for health, rigorous studies should continue to measure and validate methods that attempt to measure the power of positive (and negative) outlook as well (Peterson, 2000). Recent research has shown that both have important implications for health outcomes. In a longitudinal study of more than 97,000 Black and White women over fifty, Tindle and colleagues (2009) found that women who maintained optimistic attitudes were significantly less likely (by 9%) to develop heart disease and fourteen percent less likely to die from all-cause mortality than those with pessimistic attitudes, controlling for SES and other demographic factors. Women who reported high levels of cynical hostility were 16% more likely than other women to die during the study period. These findings appear to be consistent with early evidence linking negative attitudes, dispositions and personality traits to early-onset cardiovascular disease and premature mortality.

Conversely, religiosity, a resource measure that has been found to have positive associations with health, may operate through different pathways – depending on whether it is measured as a source of social support, contributor to health behaviors or as a coping resource. According to the transactional model of coping, a strong belief in God or fate may lead a person in a distressing situation to avoid problem-focused coping and accept a situation as out of their control or part of God's will. Strickland's research (1978)

indicates that people who believe that outcomes are dependent on their own behavior cope differently with health problems than people who see outcomes to be the result of luck, chance, fate, or powers beyond personal control. Preliminary findings from a separate qualitative study of the women in the WLPS sample indicate that the terms religion and spirituality hold vastly different meanings for these women and therefore traditional ways of understanding the benefits associated with religiosity may not necessarily hold across individuals or groups. The measure of religiosity in the current study pertained to religious/spiritual importance and not specifically to beliefs or actions, so future research is needed to understand correlations between the two, to what extent either influences coping behavior, and how people interpret religion/spirituality as influencing their lives, if at all.

Limitations of These Studies

A primary challenge in health psychology research is the issue of qualitatively understanding complex constructs and being able to quantify them with measures that are both valid and reliable. While most recommendations for improving personality and health research call for using rigorous methods (e.g., prospective designs) and objective measures (e.g., mortality, objectively diagnosed disease), very rarely mentioned is the importance of clarifying the meaning of ambiguous psychosocial constructs through qualitative research or mixed-method designs.

For example, in the current study, several measures used have yet to be fully defined and clearly understood by scholars; yet they are quantified and used to draw conclusions and generalizations that may or may not be warranted. The relationship between religiosity/spirituality and health is an example of an area that has undergone

much investigation, but has produced little conclusive data supporting a strong relationship between the two. While our measure of religion/spirituality may not have shown a significant effect on health outcomes, it should be recognized that this research only assessed one aspect of religiosity/spirituality – personal meaningfulness and importance. More useful measures might differentiate between religion and spirituality and whether either/both is a source of comfort or support when dealing with difficult life experiences. Specifically, a measure of religious/spiritual coping could factor out differences between the current measure (religious/spiritual importance) and whether relying on one's beliefs is actively used as a source of strength and coping. Future research should clarify for whom positive effects do hold, during what situations (e.g., daily hassles with stress or severe physical illness), and what sorts of measures assess the key aspects of religiosity or spirituality that are important for health. It may be important to consider alternative methodological approaches (e.g., qualitative research) that could be useful in understanding the relevance of religiosity/spirituality to health, if any, from the respondents' perspective. Beyond measurement issues, it is possible that religion holds no real benefit for health. The literature examining this relationship has yielded mixed results, and given the current sample of college-educated women of relatively high social class, it is likely that other resources may be more relevant for health and the stress-health relationship. Religion may not serve as a personal resource for all individuals when faced with difficult situations, nor does it necessarily confer positive health benefits.

Similarly, given the complexities discussed regarding caregiving effects, it is clear that simply knowing whether one is a caregiver (currently or in the past) is not sufficient

to fully capture the contextual factors important for understanding the role of caregiving. It would be helpful to further examine what elements of caregiving are particularly maladaptive or positive for health. A comprehensive measure might assess multidimensional domains such as 1) the positive and negative effects of caregiving, 2) care tasks and skills, 3) caregiver health and quality of life, 4) the financial, social and emotional impact of caregiving, 5) caregiver social support, and 6) living arrangement with care recipient.

The potential limitations of the current study serve as important notes for the future agenda of health psychology research. Clarification and consistent use of measures is important in advancing the field and situating the relevance of psychosocial factors for health and aging research. Examining social context more fully is equally important for health-related research. As discussed earlier, most research on personality, health and aging is limited to certain demographic groups. In addition to integrating methods and using well-defined measures, additional research efforts should attempt to include diverse sample populations in prospective studies, as members of various demographic groups may have different life experiences that are important for health-related outcomes.

For example, racial differences in emotional burden and physical health have been noted in caregiver studies (Dilworth-Anderson, Williams, & Cooper, 1999). Furthermore, personal resources that may hold benefits for one group may not necessarily apply to other groups. Studies of African-American caregivers revealed that prayer, spiritual and religious support received from the church was instrumental in managing the stresses incurred by caregiving responsibilities, whereas studies of White caregivers has

not found a similar association (Dilworth-Anderson, Williams, & Cooper, 1999; Herbert, Weinstein, Martire, & Schulz, 2006) . In Study 3, although the sample was diverse with respect to race and class background, we did not find support for racial differences in caregiver stress. We did, however, find mean differences by race on levels of perceived discrimination, self-efficacy and religiosity indicating that interpreting discrimination, and one's belief in own abilities or God may have deeper cultural and historical meaning and connotation.

In study one, interaction models were tested due to previous research that has shown race differences in generativity and social involvement between African-Americans and Whites (Hart, McAdams, Hirsch, & Bauer, 2001). Similarly, Davis (1990) hypothesized racial differences about concerns with growing old; yet there is little empirical evidence to support this claim. In study one, although there was a statistical trend for mean differences between Black and White women on concerns about aging, this difference did not result in significant moderation by race. Likewise, while a significant difference in means was found for generativity, with Blacks reporting higher scores than Whites, there was no difference in the relationship with successful aging. It is possible that differences in generativity do, however, have some important implications. In a separate study, we found that differences in mean levels of generativity did affect involvement in community work, such that a significant relationship between generativity and community involvement was observed for White women only. Because Black women reported higher scores on both generativity and community involvement, this finding suggests that the motivation for active engagement in community may differ between groups (Newton & Versey, in preparation). In short, though there do not seem to

be race differences in the relationship of the variables studied in this dissertation and successful aging, mean race differences in the variables may have important consequences not studied here.

It should be noted that although there is some variation by race and class in the sample used for both Study 1 and Study 3 analyses, the numbers of African-Americans and low-SEP respondents are relatively low; thus, drawing conclusions based on subgroup analyses with small cell sizes presents some challenges. Study 3 identified significant mean differences between racial groups for measures of discriminatory hassles, self-efficacy and religiosity/spirituality. Similar group differences were noted for high SEP and low SEP groups on discrimination and religiosity. Nevertheless, neither race nor SEP moderated the relationships with health and successful aging. While it is possible that social mobility due to education has provided some benefits for both the African-American women and those from a working class background, further research is needed to explore these relationships in samples less homogeneous with respect to current social class. Most research examining the role of psychosocial factors and health is based on middle-class White participants. This study shows that there are significant race and past social class differences on primary stressor and personal resource variables; further research is needed to clarify the roles of race and social class in health and aging.

Other additional limitations of this research were size and composition of the samples used to examine relationships. All three samples used for this research were relatively small ($n < 150$) and thus effects needed to be fairly robust in order to be detected. In spite of the limited sample sizes, however, the findings present strong evidence for the relationship between personality and health in that the same relationships

were found among all women who participated (WLPS, Smith and Radcliffe). Secondly, as the primary outcome of this study sought to examine correlates and predictors of ‘successful aging,’ it has been noted throughout that participants in all three samples are just entering older age in their early sixties. Therefore, findings from this research should be interpreted carefully, as these results may be more reflective of women transitioning from midlife than a group of ‘older adults’ (typically 65-70+). Finally, the generalizability of these findings should be examined in less-educated samples and groups of men, as the majority of this work (and previous work) is based on samples of well-educated, middle and middle-upper class women. For example, in a study of personality development and aging among high school graduates, differences were found on aging concerns with working-class men expressing the highest levels of concern about aging compared to working-class women and middle-class men and women (Miner-Rubino, Winter, & Stewart, 2004). Groups were similar on other dimensions of development and personality (e.g., generativity), although there were significant gender differences noted for confident power. These results indicate that while in general, we might not expect personality development to differ between groups, it is possible that subjective appraisals of aging differ due to different opportunities and life experiences shaped by education, class and gender.

This research provides some support for potential mechanisms by which psychosocial factors influence health (e.g., transactional model) and aging (e.g., healthy aging initiatives), therefore presenting opportunities for intervention and practice. While various theoretical models have attempted to describe ways in which personality is relevant to the stress-health relationship, very few studies have presented compelling tests

of mediational hypotheses. This dissertation attempts to do that and to elucidate the usefulness of personal resources that may be important for understanding basic science and its translation into useful interventions.

Implications

There are several implications that can be drawn from these studies that may apply to health and aging policy as well as research aimed at understanding links between personality and health, stress and health and to a lesser extent, health disparities. Adults who reach retirement age in the coming decades have been described as a group that embraces youth, rejects traditional norms associated with aging, and is expected to transform policy related to social security benefits, retirement, health-delivery services and the way adults age in general. The samples studied here fit these expectations, and will be among the first cohorts transitioning into older age, so it is useful to think through the implications of these findings for aging policy in the near term.

In Studies 1 and 2, the finding that generativity was positively correlated with successful aging may have practical implications for fostering intergenerational relationship networks as well as promoting health and well-being. Erikson's notion of generativity as a chance to 'give back' presents opportunities for benefiting oneself, the community and society. For example, intergenerational programs for seniors and children have shown that even minimal amounts of interaction were mutually beneficial for both older adults and children. In the case of children, benefits of participating in intergenerational programs included positive changes in perceptions and attitudes about older people, increased empathy toward seniors, an increase in prosocial behaviors, such as sharing,

increased self-esteem, and improved attendance and behavior at school (Marx, Pannell, Parpura-Gill, & Cohen-Mansfield, 2004). For older adults, intergenerational programs represent vehicles for passing along values, culture, history and life skills to members of a succeeding generation. Yet beyond these formal programs there seem to be few other opportunities for older adults to engage in such meaningful roles or leave a legacy in the postretirement years, and even fewer designed for having an effect on a scale beyond one-on-one interaction. The untapped possibilities of expanding opportunities for generativity is one example of a "structural lag," where norms, policies and practices are out of sync with demographic trends and policies of an aging society, and can present significant challenges to rethinking what aging well in society means (Riley & Riley, 1994).

Furthermore, initiatives aimed at promoting generativity among older adults should not be limited to seniors, as many intergenerational programs are primarily targeted toward institutionalized groups. Erikson conceptualized generativity as a hallmark of midlife, and therefore opportunities to allow adults to express generativity should be created and fostered during midlife, so they can be carried on through older age. Informal participation in generative acts may be best executed at the community and neighborhood level, a natural environment for promoting intergenerational interaction and prosocial behaviors since social institutions such as schools and churches generally depend on the generative efforts of adults. Thus, a second means of promoting generativity may be through local channels where neighborhood residents act and advocate on the behalf of all members of the community. Neighborhood get-togethers, food-exchange programs and maintaining community gardens are all examples of ways

to foster neighborhood connectivity and create informal spaces for generativity to flourish. Beyond community level strategies, individual generativity can take almost any form – as long as care is taken to promote the next generation.

Similar to generativity, interventions to alleviate concerns about aging may be best addressed during midlife. Midlife presents an ideal time to plan for aging and thoughtfully consider options related to post-retirement. Some concerns about aging may stem from uncertainty about the future, financial concerns and the worry of being able to provide and sustain a certain lifestyle. Thus, middle-aged individuals may benefit from pre-retirement advisement, financial planning and cost analyses to help alleviate the sometimes unexpected financial burdens of later life.

Issues related to care and care-assistance should also be discussed with family members during early stages of aging to mitigate confusion about older adults' wishes. Increasingly, seniors are embracing independence and choosing, for example, to live and age within their homes rather than to move to assisted-living facilities or nursing homes. New legislation focused on 'Aging in Place' addresses some concerns of older adults about losing independence and being forced to leave familiar surroundings once they reach a certain age. The potential benefits of this new approach in accommodating aging adults are many. Older adults have noted that living in their homes with supportive services is the most desirable way of aging (AARP, 2009). Furthermore, successful aging-in-place strategies are highly efficient in that they minimize the provision of inappropriate or unneeded care, and therefore the overall costs of care, by offering a range of flexible services designed to fit the needs of the individual. Aging-in-place strategies create various care and housing options that provide support as defined by an

individual's personal desire and efforts to live independently. Aging-in-place appears to work best as part of a comprehensive and holistic approach to support both the needs of an aging individual and an aging community. As part of this effort, grass-roots community organizations (e.g., "villages") aid older residents who might live far away from relatives or who have restricted incomes to remain in their homes by providing assistance with household chores and transportation.

Finally, if aging concerns are tied to fears of physical decline, some proactive steps can be taken to help improve mobility throughout late midlife. Health promoting behaviors such as exercise, diet and relaxation are included in most existing policy programs focused on aging well. Taken together, these strategies – useful in various social contexts – may help empower individuals to make proactive decisions regarding health and aging.

Findings from Study 3 indicated that stress, particularly perceived discriminatory hassles, were detrimental for successful aging as well as subjective health. While avoiding discrimination may not be an option, promoting productive responses for dealing with such incidents may be useful for overcoming stress associated with discriminatory hassles. For example, Williams and colleagues (2008) cited emotions such as anger, frustration and helplessness as triggers for cardiovascular reactivity in respondents who reported incidents of discrimination. While individuals cope and deal with stressors differently, it may be possible to avoid or eliminate the adverse effects of these emotions if one developed positive strategies for managing insults and micro-aggressions. Study 3 was grounded in the stress and coping framework, which assumes that the way in which individuals interpret, appraise and respond to a stressor determines

the extent to which they experienced a negative outcomes (Lazarus & Folkman, 1984). Perceived discrimination, however, is unique in that unlike non-discriminatory stressors, it often targets a core component of one's identity. For example, being ignored or treated rudely on the basis of membership in a social category implies that one is socially devalued. Because of this, discriminatory hassles may more consistently produce appraisals of harm than non-discriminatory hassles.

Coping may involve any number of strategies to minimize the effects from a stressor (Lazarus & Folkman, 1984). While there are several ways to classify coping responses, most generally specify a distinction between primary or secondary control. Primary control is defined as attempting to change the environment so that it conforms to one's needs, whereas secondary control efforts attempt to adapt the self to the environment. In some cases, individuals may perceive themselves as having a substantial amount power over the environment and exert primary control, whereas in other cases they might have little power and instead exert secondary control (Mallet & Swim, 2005). In cases of discriminatory hassles, it has been argued that individuals often feel as if they have little control over the situation and the environment (Williams et al., 2008), and therefore individuals who encounter discriminatory hassles may exert secondary control to mitigate the incident. This classification frames the individual as an active agent, working to achieve balance with the environment, even when coping efforts may appear to be passive or withdrawn. Past research offers numerous classifications of coping responses, but the majority of alternatives can be summarized within the constructs of primary control (e.g., approaching, active coping, engaging, problem-focused coping)

and secondary control (e.g., avoiding, passive coping, disengaging, emotion-focused) (Mallett & Swim, 2005).

One challenge in prescribing interventions for dealing with stress is that most research on stress and coping focuses on reactive responses to stress, such as seeking social support, confronting the harasser, and psychological distancing. Although useful, these strategies can only be employed *following* a stressful situation (e.g., Folkman et al., 1986). Some researchers have argued that given its post hoc nature, reactive coping cannot fully explain how individuals should prepare to approach potentially stressful situations or even more importantly, employ strategies to reduce or eliminate negative consequences *before* or *during* a potentially stressful event (Mallett & Swim, 2005).

Recently, however, proactive coping has been suggested as an option for better managing the effects associated with stressful events (Aspinwall & Taylor, 1997). Proactive coping efforts allow expansion of the time frame of a stressful episode to include how one might deal with a stressor before it occurs, thereby giving the individual a certain degree of control over the stressor and how one responds to it. In general, proactive coping involves exerting effort before a potentially stressful event, either to change the nature of the stressor or to prevent it from happening (Aspinwall & Taylor, 1997). By exerting control over the situation, the incident/discriminatory hassle may become less stressful and easier to manage. Furthermore, by anticipating the potentially stressful action and preparing a response beforehand, the individual can practice strategies and become more adept at using them. Proactive coping models can be transferred to various contexts (e.g., work, everyday hassles) and implemented by the

individual, thereby creating a sense of power and control over both the situation and the individual's reaction.

A related alternative to dealing with general stress is utilization of resources. The current study found that self-efficacy was particularly helpful in buffering the negative relationship between stress and health. Because self-efficacy is related to self-confidence, mastery and control, employing self-efficacious methods in dealing with stress may empower individuals and allow them to feel as though they can overcome challenges as opposed to feeling helpless and overwhelmed by stress, or more specifically, discriminatory hassles. Individuals high in self-efficacy tend to recover quickly in the face of difficulty, whereas those low in self-efficacy use emotion-focused coping strategies, such as anger, denial and self-blame – all emotions implicated in the psychosocial model hypothesized to frame the mechanisms underlying the negative relationship between stress and health. Therefore, since using resources can be interpreted as a form of coping, efforts aimed at helping individuals manage stress should involve ways in which individuals may draw from various resources to control and overcome the obstacles of daily life.

Conclusion

The findings from this dissertation research support the notion that personality plays an important role in successful aging. While the effects of personality traits on health and certain health behaviors are recognized, it may be time to go beyond the trait-health model to consider other ways in which personality and unique person-characteristics such

as personality developmental variables that are related to particular life stages contribute to health and wellness within a particular age group.

Secondly, considering social context and the extent to which individuals have economic and personal resources to manage stress in their lives is equally important. Underlying processes that link lifestyle and coping strategies to health, such as decisions about whether to exercise, stop smoking, or take health promoting action, are likely moderated by access to health-preventative and wellness-promoting services as well as structural factors such as socioeconomic resources and the built environment. Often, decisions about individual health are linked to beliefs about choice, as well as whether realistic conditions affect whether a choice actually exists.

Thus, while the narrative of successful aging is one that focuses on gaining the most from life, this process should be understood from a perspective of resiliency. The term ‘resilience’ is often used interchangeably with ‘coping’ and ‘adaptation,’ but ultimately conveys a capacity to create positive outcomes from negative situations. Clarifying the differences and relationships among these constructs, and what they each mean for health is important. While coping may refer to strategies used to manage the demands of a stressful situation, adaptation likely refers to the responses that aim to improve one’s fitness in relation to the environment. Resilience, however, may encompass both coping and adaptation in that it can be conceptualized as adaptive positive outcomes in the face of adversity. Understanding how resilience may operate as a universal process, yet hold different meaning for specific groups, may help us to begin to develop a holistic measure of successful aging that may be applied generally. However it is cultivated or developed, resilience seems to be a constructive way to frame

the conversation about positive outcomes in older age. Questions related to who becomes resilient and how resilience can be promoted across the lifespan are emerging areas of inquiry.

Resilience has received considerable attention in studies of younger persons, yet with the growing population of older adults it seems reasonable that as health psychologists and students of the growing positive psychology movement, we begin to think of how resilience may operate in older adults as well. Early studies of resilience focused on describing characteristics of resilient children, and more recent studies have followed individuals suffering from adverse medical conditions such as cancer or other traumatic stresses. From this research, we might hypothesize a model where effective coping or personality development at a certain stage of life leads to adaptation, and successful adaptation results in development of resilience. Lavretsky and Irwin's (2007) review of the literature on resilience defined it as the ability to maintain biologic and psychologic homeostasis under stress. Stress, and the way we handle it, appears to be a central differentiating factor in separating positive versus negative outcomes over the life course. It should be acknowledged that stress alone is not necessarily detrimental. There are people who experience stress and enjoy relatively good health. In fact, the current research shows that stress among women with high levels of personal resources is not detrimental to either subjective health or successful aging.

While avoiding negative events and health problems might seem to be the ideal, the ability of an individual to manage and recover from adversity is perhaps an even more important indicator of aging successfully. Thus, psychologists, gerontologists and public health practitioners should continue to aim to understand the ways in which older adults

reconcile past life experiences and challenges associated with aging to maintain satisfaction with life and overall well-being.

Appendix A
Successful Aging aggregate measure

Smith and Radcliffe

Self-reported perceived health [2005 Smith, 2005 Radcliffe]

1. How would you rate your general state of health in the last twelve months?
“Poor” (1) to “Excellent” (5)

Self-reported perceived energy [2005 Smith, 2005 Radcliffe]

1. How would you rate your energy level?
“Low” (1) to “High” (5)

Overall life satisfaction [2005 Smith, 2005 Radcliffe]

1. Overall, how satisfied are you with the way your life has turned out so far?
“Not at all satisfied” (1) to “Very satisfied” (4)

Level of community involvement (continuous measure; mean taken) [2005 Smith, 2005 Radcliffe]

1. Number of professional organizations a member of
2. Number of religious organizations a member of

WLPS

Self-reported perceived health [2008 WLPS]

1. In general, would you say your health is:
“Poor” (1) to “Excellent” (5)
2. I am as healthy as anybody I know.
“Strongly Disagree” (1) to “Strongly Agree” (5)

Overall life satisfaction [2008 WLPS]

1. Overall, how satisfied are you with the way your life has turned out so far?
“Not at all satisfied” (1) to “Very satisfied” (5)

Level of community involvement (continuous measure; sum taken) [2008 WLPS]

1. Informed others in my community about politics.

2. Worked with others on local problems.
3. Formed a group to work on local problems.
4. Contacted local officials on social issues.
5. Contacted a local, state or federal official about a particular personal problem.

Appendix B
Feelings about Life Generativity scale

Smith, Radcliffe and WLPS

Feelings about Life Scale [2005 Smith, 2005 Radcliffe, 2008 WLPS]

Response Scale: “Not at all descriptive” (1) to “Very descriptive” (3)

1. I need to feel needed by people.
2. I make an effort to ensure that younger people get their chance to develop.
3. I have a wider perspective on life.
4. I am an influence in my community or area of interest.
5. I desire a new level of productivity or effectiveness.
6. I want to make changes in society.
7. I have an interest in things beyond my family.
8. I feel I have something to teach young people.

Appendix C
Feelings about Life Concerns about aging scale

Smith, Radcliffe and WLPS

Feelings about Life Scale [2005 Smith, 2005 Radcliffe, 2008 WLPS]

Response Scale: “Not at all descriptive” (1) to “Very descriptive” (3)

1. I feel I look old.
2. I think a lot about death.
3. I feel the limits of what I will be able to accomplish.
4. Growing older, I know there are things I’ll never do.
5. I feel men aren’t interested in me.
6. I feel less attractive than I used to be.
7. Sometimes I feel passé.
8. I feel the importance of time’s passing.

Appendix D
Discriminatory hassles measure

WLPS

Discriminatory Hassles (2008) [WLPS]

In your day-to-day life how often have you had the following experiences? (Never, Rarely, Sometimes, Often). If you indicated “often” or “sometimes,” what do you think is/are the MAIN REASON(s) for the experience? Check all that you think are the MAIN REASON(s). (Reasons could include race/ethnicity, gender, physical appearance, income level, age, sexual orientation, other).

Response Scale: “Never” (1) to “Often” (4)

1. You are treated with less courtesy than other people.
2. You are treated with less respect than other people.
3. You receive poorer service than other people at restaurants or stores.
4. People act as if they think you are not smart.
5. People act as if they are afraid of you.
6. People act as if they think you are dishonest.
7. People act as if they're better than you are.
8. You or your family members are called names or insulted.
9. You are threatened or harassed.
10. People ignore you or act as if you are not there.

Appendix E
Caregiving measure

WLPS

Current/Past Caregiving (2008) [WLPS]

Please respond to the following questions regardless of whether you are or have ever been a caregiver. Which of the following options best describes you right now?

Response Scale: “No” (0) to “Yes” (1)

_____ Currently providing care to:

- ___ Spouse/Partner
- ___ Mother-in-law
- ___ Mother
- ___ Father-in-law
- ___ Father
- ___ Other adult (please specify) _____
- ___ Child (please specify) _____

_____ Have provided care to:

- ___ Spouse/Partner
- ___ Mother-in-law
- ___ Mother
- ___ Father-in-law
- ___ Father
- ___ Other adult (please specify) _____
- ___ Child (please specify) _____

_____ Have not yet provided care to a parent, spouse/partner, or other adult, but expect that I may do so sometime in the future.

_____ Have never provided care to a parent, spouse/partner, or other adult, and do not expect to in the future.

Appendix F

Self-Efficacy aggregate measure

WLPS

Confident Power (2008) [WLPS]

Feelings about Life Scale

Response Scale: “Not at all descriptive” (1) to “Very descriptive” (3)

1. Feeling powerful
2. Feeling confident
3. Feeling I have the authority to do what I want
4. Not holding back when I feel that I have something to offer
5. Having an accurate view of my powers and limitations
6. Feeling I understand how the world and other people work
7. Feeling established
8. Feeling respected

Coping Self-Efficacy (2008) [WLPS]

When things aren't going well for you, or when you're having problems, how confident or certain are you that you can do the following? Please read each item below and rate using a scale from 1 – 10, indicate the extent to which you believe you could perform the following tasks.

Response Scale: “Cannot do at all” (1) to “Certain that I can do this” (10)

1. Break an upsetting problem down into smaller parts.
2. Sort out what can be changed, and what cannot be changed.
3. Make a plan of action and follow it when confronted with a problem.
4. Leave options open when things get stressful.
5. Think about one part of the problem at a time.
6. Find solutions to your most difficult problems.
7. Make unpleasant thoughts go away.
8. Take your mind off unpleasant thoughts.
9. Stop yourself from being upset by unpleasant thoughts.
10. Keep from feeling sad.
11. Get friends to help you with the things you need.
12. Get emotional support from friends and family.
13. Make new friends.

Appendix G
Religiosity/Spirituality measure

WLPS

Religiosity/Spirituality (2008) [WLPS]

“Not at all” (1) to “A great deal” (5)

1. For you to be happiest and most comfortable, how much do you need to achieve spiritual growth?
2. How important is spirituality/religion in your life?

Appendix H
Subjective health measure

WLPS

Subjective health [2008 WLPS]

1. In general, would you say your health is:
 “Poor” (1) to “Excellent” (5)

2. I am as healthy as anybody I know.
 “Strongly Disagree” (1) to “Strongly Agree” (5)

3. I seem to get sick a little easier than other people I know.
 “Strongly Disagree” (1) to “Strongly Agree” (5)

Appendix I **Socioeconomic Position**

WLPS

SEP Hollingshead & Redlich Coding (1992) [WLPS]

Childhood SEP [WLPS]

1. Mother Occupation
2. Father Occupation
3. Mother Education
4. Father Education

Appendix J

Race

Race Coding (2008) [WLPS]:

- (1) American Indian
- (2) Asian American
- (3) Black/African-American
- (4) Latin American/Latina
- (5) Mexican American/Chicana
- (6) Puerto Rican
- (7) White
- (8) Other
- (9) Mixed

References

- Ackerman, S., Zuroff, D. C., & Moskowitz, D. S. (2000). Generativity in midlife and young adults: Links to agency, communion, and adjustment. *International Journal of Aging and Human Development, 50*, 17-41.
- Adams, S. H., Cartwright, L. K., Ostrove, J. M., Stewart, A. J., & Wink, P. (1998). Psychological predictors of good health in three longitudinal samples of educated midlife women. *Health Psychology, 17*, 412-420.
- Adler, N. E., Boyce, T., Chesney, M. A., Folkman, S., & Syme, S. (1993). Socioeconomic inequalities in health: No easy solution. *Journal of American Medical Association, 269*(24), 3140–3145.
- Ai, A. L., Ladd, K. L., Peterson, C., Cook, C. A., Shearer, M., & Koenig, H. G. (2010). Long-term adjustment after surviving open heart surgery: The effect of using prayer for coping replicated in a prospective design. *The Gerontologist, 50*(6), 798-809.
- Ai, A. L., Peterson, C., Tice, T. N., Huang, B., Rodgers, W., & Bolling, S. F. (2007). The influence of prayer coping on mental health among cardiac surgery patients: The role of optimism and acute distress. *Journal of Health Psychology, 12*(4), 580-596.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Andersen, M., & Collins, P. H. (1995). *Conceptualizing race, class, and gender. race, class and gender*. Belmont: Wadsworth Publishing.
- Anderson, R. N., & Smith, B. L. (2003). Deaths: Leading causes for 2001. *National vital statistics reports, 52*(9). Hyattsville, Maryland: National Center for Health Statistics.
- Andes, N. (1992). Social class and gender: An empirical evaluation of occupational stratification. *Gender & Society, 6*, 231-251.
- Antonovsky, A. (1979). *Health, stress, and coping*. San Fransisco: Jossey-Bass.
- Antonovsky, A. & Kats, R. (1967). The life crisis history as a tool in epidemiologic research. *Journal of Health and Social Behavior, 8*, 15-20.
- Antonucci, T. C. (1985). Personal characteristics, social support, and social behavior. In

- R. H. Binstock, & E. Shanas (Eds.), *Handbook of aging and the social sciences*. New York: Van Nostrand Reinhold.
- Aspinwall, L. G., & Taylor, S. E. (1997). A stitch in time: Self-regulation and proactive coping. *Psychological Bulletin*, *121*, 417-436.
- Aspinwall, L. G., & Tedeschi, R. G. (2010). The value of positive psychology for health psychology: Progress and pitfalls in examining the relation of positive phenomena to health. *Annals of Behavioral Medicine*, *39*(1), 4-15.
- Arias, E., & Smith, B. L. (2003). Deaths: Preliminary Data for 2001. *National vital statistics reports*, *51*(5). Hyattsville, Maryland: National Center for Health Statistics.
- Atchley R. C. (1971). Retirement and leisure participation: Continuity or crisis? *The Gerontologist*, *11*(1), 13-17.
- Atchley R. C. (1989). A continuity theory of normal aging. *The Gerontologist*, *29*(2), 183-190.
- Bajor, J. K., & Baltes, B. B. (2003). The relationship between selection optimization with compensation, conscientiousness, motivation, and performance. *Journal of Vocational Behavior*, *63*, 347-367.
- Baltes, P. B. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, *23*, 611-626.
- Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist*, *52*, 366-380.
- Baltes, P. B., & Baltes, M. M. (1990). Psychological perspectives on successful aging: The model of selective optimization with compensation. In P. B. Baltes & M. M. Baltes (Eds.), *Successful aging: Perspectives from the behavioral sciences* (pp. 1-34). New York: Cambridge University Press.
- Baltes, M. M., & Carstensen, L. L. (1996). The process of successful aging. *Aging and Society*, *16*, 397-422.
- Baltes, P. B., Mayer, K. U., Helmchen, H., & Steinhagen-Thiessen, E. (1993). The Berlin Aging Study (BASE): Overview and design. *Special Issue of Aging and Society*, *13*, 483-515.

- Baltes, P. B., & Smith, J. (2003). New frontiers in the future of aging: From successful aging of the young old to the dilemmas of the fourth age. *Gerontology*, *49*, 123–135.
- Baltes, P. B., & Smith, J. (1997). A systemic-wholistic view of psychological functioning in very old age: Introduction to a collection of articles from the Berlin Aging Study. *Psychology and Aging*, *12*, 395-409.
- Baltes, P. B., Smith, J., & Staudinger, U. M. (1992). Wisdom and successful aging. In T. Sonderegger (Ed.), *Nebraska symposium on motivation* (Vol. 39, pp. 123–167). Lincoln, NE: University of Nebraska Press.
- Baltes, P. B., Staudinger, U. M., & Lindenberger, U. (1999). Lifespan psychology: Theory and application to intellectual functioning. *Annual Review of Psychology*, *50*, 471-507.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191-215.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*, 122-147.
- Bandura, A. (2001). Self-efficacy and health. In N. J. Smelser & P. B. Baltes (Eds.), *International encyclopedia of the social and behavioral sciences*, *20*, 13815-13820. Oxford: Elsevier Science.
- Barnes, L. L., Wilson, R. S., Li, Y., Aggarwal, N. T., Gilley, D. W., McCann, J. J., & Evans, D. A. (2005). Racial differences in the progression of cognitive decline in Alzheimer Disease. *American Journal of Geriatric Psychiatry*, *13*(11), 959-967.
- Barnes, L. L., Wilson, R. S., Li, Y., Gilley, D. W., Bennett, D. A., & Evans, D. A. (2006). Change in cognitive function in Alzheimer's disease in African-American and white persons. *Neuroepidemiology*, *26*(1), 16-22.
- Barnett, R. C. & Baruch, G. K. (1978). Women in the middle years: A critique of research and theory. *Psychology of Women Quarterly*, *3*, 187-197.
- Barrett, A. E., & Robbins, C. (2008). The multiple sources of women's aging anxiety and their relationship with psychological distress. *Journal of Aging and Health*, *20*(1), 32-65.
- Bedford, J. L., & Johnson, S. C. (2006). Societal influences on body image dissatisfaction in younger and older women. *Journal of Women & Aging*, *18*(1), 41-55.

- Benton, J. P., Christopher, A. N., & Walter, M. I. (2007). Death anxiety as a function of aging anxiety. *Death Studies, 31*, 337-350.
- Bergin, A. E. (1983). Religiosity and mental health: A critical reevaluation and meta-analysis. *Professional Psychology: Research and Practice, 14*, 170-184.
- Biafora, F. A., Warheit, G. J., Taylor, D., Vega, W. A., Zimmerman, R. S., & Gil, A. G. (1993). Racial mistrust and deviant behaviors among ethnically diverse Black adolescent boys. *Journal of Applied Social Psychology, 23*, 891-910.
- Bialystok, E., & Craik, F. I. M. (2006). *Lifespan cognition: Mechanisms of change*. New York: Oxford University Press.
- Biggs, S. (2001). Toward critical narrativity: stories of aging in contemporary social policy. *Journal of Aging Studies, 15*(1), 303-316.
- Bjorntorp, P. (1997) Body fat distribution, insulin resistance, and metabolic diseases. *Nutrition, 13*, 795-803.
- Brim, O. G. Jr., Ryff, C. D., & Kessler, R. C. (2004). The MIDUS National Survey: An Overview. In O. G. Brim OG, C. D. Ryff , & R. C. Kessler RC (Eds.) *How healthy are we? A national study of well-being at midlife*, 1-34. Chicago: University of Chicago Press.
- Brodman, K., Erdmann, A. J., & Wolf, H. G. (1956). *Manual for the Cornell Medical Index Health Questionnaire*. New York: Cornell University Medical College.
- Brondolo, E., Rieppi, R., Kelly, K. & Gerin, W. (2003) Perceived racism and blood pressure: a review of the literature and conceptual and methodological critique. *Annals of Behavioral Medicine, 25*, 1-55.
- Brooks-Gunn, J., & Kirsh, B. (1984). Life-events and boundaries of midlife for women. In G. Baruch & J. Brooks-Gunn (Eds.) *Women in the Midlife*. New York: Plenum Press.
- Brown, S. L., & Brown, R. M. (2006). Selective Investment Theory: Recasting the functional significance of close relationships. *Psychological Inquiry, 17*, 1–29.
- Brown, S. L., Smith, D. M., Schulz, R., Kabeto, M. U., Ubel, P. A., Poulin, M., Yi, J., Kim, C., & Langa, K. M. (2009). Caregiving behavior is associated with decreased mortality risk. *Psychological Science, 20*(4), 488-494.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods*. Newbury Park, CA: Sage.

- Buckner, R. L. (2004). Memory and executive functioning aging and AD: Multiple factors that cause decline and reserve factors that compensate. *Neuron*, 44(1), 195-208.
- Buhr, G. T., Kuchibhatla, M., & Clipp, E. C. (2006). Caregivers' reasons for nursing home placement: Clues for improving discussions with families prior to the transition. *The Gerontologist*, 46(1), 52-61.
- Cabeza, R., Nyberg, L. & Park, D. C. (2005). *Cognitive neuroscience of aging linking cognitive and cerebral aging*. Oxford, UK: Oxford University Press.
- Calasanti, T. M., & Slevin, K. F. (2001). *Gender, social inequalities, and aging*. Gender Lens Series. Lanham, MD: Alta Mira Press.
- Caldwell, C. H., Guthrie, B. J., & Jackson, J. S. (2006). Identity development, discrimination, and psychological well-being among African American and Caribbean black adolescents. In A. J. Schulz, & L. Mullings (Eds.), *Gender, race, class, and health: Intersectional approaches*. San Francisco, CA: Jossey-Bass.
- Camp, C., Orsulic-Jeras, S., Lee, M., & Judge, K. (2005). Effects of a Montessori-based intergenerational program on engagement and affect for adult day care clients with dementia. In M. Wykle, P. Whitehouse, and D. Morris (Eds.), *Successful aging through the life span: Intergenerational issues in health* (pp. 159-176). New York: Springer.
- Carstensen, L. L. (1992). Social and emotional patterns in adulthood: Support for socioemotional selectivity theory. *Psychology and Aging*, 7, 331-338.
- Carstensen L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, 54, 165–181.
- Carter, C. S. (1998). Neuroendocrine perspectives on social attachment and love. *Psychoneuroendocrinology*, 23, 779–818.
- Caspi, A., & Roberts, B. W. (1999). Personality continuity and change across the life course. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 300–326). New York: Guilford Press.
- Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology*, 56(17), 2-24.
- Chadiha, L. A., Adams, P., Biegel, D. E., Auslander, W., Gutierrez, L. (2004). Empowering African American women informal caregivers: A literature synthesis and practice strategies. *Social Work*, 49(1), 97-108.

- Chadiha, L. A., Rafferty, J., & Pickard, J. (2003). The influence of caregiving stressors, social support, and caregiving appraisal on marital functioning among African American wife caregivers. *Journal of Marital and Family Therapy, 29*(4), 479-490.
- Charles, S. T., Mather, M., & Carstensen, L. L. (2003). Aging and emotional memory: The forgettable nature of negative images for older adults. *Journal of Experimental Psychology: General, 132*, 310-324.
- Charles, S. T., Reynolds, C. A., & Gatz, M. (2001). Age-related differences and change in positive and negative affect over 23 years. *Journal of Personality and Social Psychology, 80*, 136–151.
- Chatters, L. M., Taylor, R. J., Lincoln, K. D., & Jackson, J. S. (2008). Religious coping among African Americans, Caribbean Blacks, and non-Hispanic Whites. *Journal of Community Psychology, 36*(3), 371-386.
- Chesney, M. A., Chambers, D. B. Taylor, J. M., Johnson, L. M. & Folkman, S. (2003). Coping effectiveness training for men living with HIV: Results from a randomized clinical trial testing a group-based intervention. *Psychosomatic Medicine, 65*, 1038-1046.
- Chesney, M. A., Neilands, T. B., Chambers, D. B., Taylor, J. M., & Folkman S. (2006). A validity and reliability study of the coping self-efficacy scale. *British Journal of Health Psychology, 11*(3), 421-437.
- Chida, Y., Steptoe, A., & Powell, L. H. (2009). Religiosity/spirituality and mortality: A systematic quantitative review. *Psychotherapy and Psychosomatics, 78*(2), 81-90.
- Ciol, M. A., Shumway-Cook, A., Hoffman, J. M., Yorkston, K. M., Dudgeon, B. J., & Chan, L. (2008). Minority disparities in disability between Medicare beneficiaries. *Journal of the American Geriatrics Society, 56*(3), 444-453.
- Clark, P. (1989). The philosophical foundation of empowerment: Implications for geriatric health care programs and practice. *Journal of Aging & Health, 1*(3), 267-285.
- Cobb, S. (1976). Social support as moderator of life stress. *Psychosomatic Medicine, 38*, 300-314.
- Cohen, C., Teresi, J., & Holmes, D. (1985). Social Networks, stress, adaptation, and health. *Research on Aging, 7*(3), 409-431.
- Cohen, C. A., Colantonio, A., Vernich, L. (2002). Positive aspects of caregiving: Rounding out the caregiver experience. *International Journal of Geriatric Psychiatry, 17*(2), 184-188.

- Cohen, E. (1988). The elderly mystique: Constraints on the autonomy of the elderly with disabilities. *The Gerontologist*, 28, 24–31.
- Cohen, S., Kessler, R. C., Gordon, L. U. (1995). *Measuring Stress: A guide for health and social scientists*. New York, NY: Oxford University Press Inc.
- Cohen S., & Syme, S. L. (1985). Issues in the application and study of social support. In S. Cohen & S. L. Syme (Eds.), *Social support and health*. Orlando: Academic Press.
- Cole, E. R., & Omari, S. R. (2003). Race, class and the dilemmas of upward mobility for African Americans. *Journal of Social Issues*, 59(4), 785-802.
- Cole, E. R., & Stewart, A. J. (1996). Meanings of political participation among Black and White women: Political identity and social responsibility. *Journal of Personality and Social Psychology*, 71, 130-140.
- Cole, E. R., Zucker, A. N., & Ostrove, J. M. (1998). Political participation and feminist consciousness among women activists of the 1960s. *Political Psychology*, 19(2), 349-371.
- Cole, T. (1992). *The journey of life*. New York: Cambridge University Press.
- Colen, C. G., Geronimus, A. T., Bound, J., & James, S. A. (2006). Maternal upward socioeconomic mobility and black-white disparities in infant birthweight. *American Journal of Public Health*, 96(11), 2032-2039.
- Collaer, M. L., & Hines, M. (1995). Human behavioral sex differences: A role for gonadal hormones during development? *Psychological Bulletin*, 118, 55-107.
- Conner, K. A., Dorfman, L. T., & Thompkins, J. B. (1985). Life satisfaction of retired professors: The contribution of work, health, income, and length of retirement. *Educational Gerontology*, 11(4-6), 337-347.
- Cookson, P. W., & Persell, C. H. (1991). Race and class in America's elite preparatory boarding schools: African Americans as the "outsiders within." *Journal of Negro Education*, 60, 219–228.
- Crenshaw, K. W. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241–1299.
- Crenshaw, K. W. (1989/1993). Demarginalizing the intersection of race and sex: A Black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. (pp. 383-395) In D. Kelly Weisbert (Ed.) *Feminist legal theory: Foundations*. Philadelphia: Temple University Press.

- Crowther, M. R., Parker, M. W., Achenbaum, W. A., Larimore, W. L., & Koenig, H. G. Rowe and Kahn's model of successful aging revisited: positive spirituality--the forgotten factor. *The Gerontologist*, 42(5), 613-620.
- Cruikshank, M. (2003). *Learning to be old: Gender, culture, and aging*. Lanham, MD: Rowman & Littlefield.
- Cumming, E., & Henry, W. E. (1961). A formal statement of disengagement theory. In E. Cumming & W.E. Henry (Eds), *Growing old: The process of disengagement*. New York: Basic Books.
- Cummings, S. M., Kropf, N. P., & DeWeaver, K. L. (2000). Knowledge of and attitudes toward aging among non-elders: Gender and race differences. *Journal of Women & Aging*, 12, 77-91.
- Dannefer, D. (2003). Cumulative advantage/disadvantage and the life course: Cross-fertilizing age and social science theory. *Journal of Gerontology: Social Sciences* 58B (6), S327-S337.
- Davis, B. (1990). Speaking of grief: Today I feel real low, I hope you understand. In E. C. White (Ed.), *The Black women's health book: Speaking for ourselves* (pp. 219-225). Seattle, WA: Seal Press.
- de St. Aubin, E., & McAdams, D. P. (1995). The relations of generative concern and generative action to personality traits, satisfaction/happiness with life and ego development. *Journal of Adult Development*, 2, 99-112.
- Denton, M., & Boos, L. (2007). Gender gap in wealth: Structural and material constraints, *Journal of Women & Aging*, 19, 105-120.
- Depp, C. A. & Jeste, D. V. (2006). The definition and predictors of successful aging: A comprehensive literature review. *American Journal of Geriatric Psychiatry*, 14(1), 6-20.
- Diener, E., & Suh, E. (1997). Measuring quality of life: Economic, social, and subjective indicators. *Social Indicators Research*, 40, 189-216.
- Dilworth-Anderson, P., Williams, S. W., & Cooper, T. (1999). The contexts of experiencing emotional distress among family caregivers to elderly African-Americans. *Family Relations*, 48(4), 391-396.
- Dillaway, H. E., & Byrnes, M. (2009). Reconsidering successful aging: A call for renewed and expanded academic critiques and conceptualizations. *Journal of Applied Gerontology*, 28(6), 702-722.

- Dohrenwend, B. S., & Dohrenwend, B. P. (1978). Some issues in research in stressful life events. *Journal of Nervous and Mental Disease*, 166, 7-15.
- Dressel, P., Minkler, M., & Yen, I. (2000). Gender, race, class, and aging: Advances and opportunities. In M. Minkler (Ed), *Critical gerontology: Perspectives from political and moral economy*. Amityville, NY: Baywood.
- Duncan, L. E. (1999). Motivation for collective action: Group consciousness as mediator of personality, life experiences, and women's rights activism. *Political Psychology*, 20, 611-635.
- Duncan, L. E., Wentworth, P. A., Owen-Smith, A., & LaFavor, T. (2002). Midlife educational, career, and family outcomes of women educated at two single-sex colleges. *Sex Roles*, 47, 237-247.
- Durkheim, E. (1897/1951). *Suicide: A Study in Sociology*. New York: The Free Press.
- Eberhardt, M. S., Ingram, D. D., Makuc, D. M, Pamuk, E. R., Freid, V. M., Harper, & S. D., et al. (2001). *Urban and rural health chartbook. Health, United States, 2001*. Hyattsville, MD: National Center for Health Statistics.
- Elias, M. F., Elias, P. K., D'Agostino, R. B., Silbershatz, H., & Wolf, P. A. (1997). Role of age, education and gender on cognitive performance in the Framingham Heart Study: Community-based norms. *Experimental Aging Research*, 23(3), 201-235.
- Epel, E. S., McEwen, B., Seeman, T., Matthews, K., Castellazzo, G., Brownell, K. D., Bell, J., Ickovics, J. R. (2000). Stress and body shape: Stress-induced cortisol secretion is consistently greater among women with central fat. *Psychosomatic Medicine*, 62, 623– 632.
- Erikson, E. H. (1950). *Childhood and society*. NY: Norton.
- Erikson, E. H. (1963). *Childhood and society*. New York: Norton.
- Erikson, E. H. (1968). *Identity, youth and crisis*. New York: Norton.
- Erikson, E. H. (1980). *Identity and the life cycle: A reissue*. New York: Norton.
- Erikson, E. H., Erikson J. M., & Kivnik, H. Q. (1986). *Vital involvements in old age*. New York: Norton.
- Essed, P. (1990). *Everyday Racism: Reports from women in two cultures*. Claremont, CA: Hunter House.

- Essed, P. (1991). *Understanding everyday racism: An interdisciplinary theory*. Newbury Park, CA: Sage.
- Estes, C. (1979). *The aging enterprise*. San Francisco: Jossey Bass.
- Estes, C., Biggs, S., & Phillipson, C. (2003). *Social policy, social theory and aging*. Open University Press: Milton Keynes.
- Everson-Rose, S. A., & Lewis, T. T. (2005). Psychosocial factors and cardiovascular diseases. *Annual Review of Public Health, 26*, 469-500.
- Farmer, M. E., Kittner, S. J., Rae, D. S., Bartko, J. J., & Regier, D. A. (1995). Education and change in cognitive function: The Epidemiologic Catchment Area study. *Annals of Epidemiology, 5*(1), 1-7.
- Fendrich, J. M., & Lovoy, K. L. (1988). Back to the future: Adult political behavior of former political activists. *American Sociological Review, 53*, 780-784.
- Ferraro, K. F., & Koch, J. R. (1994). Religion and health Among Black and White Adults: Examining social support and consolation. *Journal for the Scientific Study of Religion 33*, 362-375.
- Fisher, B. J. (1995). Successful aging, life satisfaction, and generativity in later life. *The International Journal of Aging & Human Development, 41*(3), 239-250.
- Fisher, L. R., & Schaffer, K. B. (1993). *Older volunteers: A guide to research and practice*. Newbury Park: Sage.
- Fiske, S. T., & Taylor, S. E. (1991). *Social cognition* (2nd ed.). New York: McGraw-Hill.
- Fleishman, J. A., & Lawrence, W. F. (2003). Demographic variation in SF-12 scores: true differences or differential item functioning? *Medical Care, 41*(7), 1175-1186.
- Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior, 21*, 219-239.
- Folkman, S., & Lazarus, R. S., (1988). The relationship between coping and emotion: Implications for theory and research. *Social Science and Medicine, 26*(3), 309-317.
- Folkman, S., Lazarus, R., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. (1986). The dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology, 50*, 992-1003.
- Fratiglioni, L., Paillard-Borg, S., & Winblad, B. (2004). An active and socially integrated lifestyle in late life may protect against dementia. *Lancet Neurology, 3*, 343-353.

- Freedman, V. A., Aykan, H., & Martin, L. G. (2001). Aggregate changes in severe cognitive impairment among older Americans: 1993 and 1998. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 56, S100-S111.
- Freedman, V. A., Aykan, H., & Martin, L. G. (2002). Another look at aggregate changes in severe cognitive impairment: cumulative effects of three survey design issues. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 57, S126-S131.
- Freedman, V. A., & Martin, L. G. (1999). The role of education in explaining and forecasting trends in functional limitation among older Americans. *Demography*, 36, 461-473.
- Freedman, V. A., Martin, L. G., & Schoeni, R. F. (2002). Recent trends in disability and functioning among older adults in the United States: A systematic review. *Journal of the American Medical Association*, 288(24), 3137-3146.
- Freund, A. M. (2008). Successful aging as management of resources: The role of selection, optimization, and compensation. *Research in Human Development* 5(2), 94-106.
- Freund, A. M., & Baltes, P. B. (1998). Selection, optimization, and compensation as strategies of life management: Correlations with subjective indicators of successful aging. *Psychology and Aging*, 13, 531-543.
- Freund, A. M., Li, K. Z., & Baltes, P. B. (1999). Successful development and aging: The role of selection, optimization, and compensation. In J. Brandtstädter, & R. M. Lerner (Eds.), *Action & self-development: Theory and research through the life span*. Thousand Oaks, CA: Sage Publications, Inc.
- Fried, L. P., Freedman, M., Endres, T. E., & Wasik, B. (1997). Building communities that promote successful aging. *The Western Journal of Medicine*, 167(4), 216-219.
- Friedman, H. S., & Booth-Kewley, S. (1987). The "disease-prone personality": A meta-analytic view of the construct. *American Psychologist*, 42, 539-555.
- Friedman, H. S., Hawley, P. H., & Tucker, J. S. (1994). Personality, health and longevity. *Current Directions in Psychological Science*, 3, 37-41.
- George, L. K. (1979). The happiness syndrome: Methodological and substantive issues in the study of social-psychological well-being in adulthood. *Gerontologist*, 19(2), 210-216.

- Geronimus, A. T. (1992). The weathering hypothesis and the health of African-American women and infants: Evidence and speculations. *Ethnicity and Disease, 2*, 207–221.
- Geronimus, A. T. (2001). Understanding and eliminating racial inequalities in women's health in the United States: The role of the weathering conceptual framework. *Journal of the American Medical Women's Association, 56*(4), 133-137.
- Geronimus, A. T., Bound, J., Waidmann, T. A., Colen, C. G., & Steffick, D. (2001). Inequality in life expectancy, functional status, and active life expectancy across selected Black and White populations in the United States. *Demography, 38*(2), 227-251.
- Gilligan, C. (1982). Adult development and women's development: Arrangements for a marriage. In J. Z. Giele (Ed.), *Women in the middle years*. New York: Wiley.
- Glass, T. A., Seeman, T. E., Herzog, A. R., Kahn, R., & Berkman, L. F. (1995). Change in productive activity in late adulthood: MacArthur studies of successful aging. *Journal of Gerontology: Social Sciences, 50B*, S65-S76.
- Goodman, R. D., & Friedman, H. S. (2006). Health status and the five-factor personality traits in a nationally representative sample. *Journal of Health Psychology, 11*(5), 643-654.
- Gould, R. (1978). *Transformations*. New York: Simon and Schuster.
- Grambs, J. D. (1989). *Women over forty: Visions and realities*. New York: Springer.
- Grodsky, E., & Pager, D. (2001). The structure of disadvantage: Individual and occupational determinants of the black-white wage gap. *American Sociological Review, 66*, 542-567.
- Grossbaum, M., & Bates, G. (2002). Correlates of psychological well-being at mid-life: The role of generativity, agency and communion, and narrative themes. *International Journal of Behavioral Development, 26*(2), 120-127.
- Gullette, M. M. (1997). *Declining to decline: Cultural combat and the politics of midlife*. Charlottesville: University of Virginia Press.
- Gupta, M. A., & Schork, N. J. (2000). Nonweight-related body image concerns among female eating-disordered patients and nonclinical controls: Some preliminary observations. *International Journal of Eating Disorders, 14*(4), 481-486.
- Gurin, G., Veroff, J., & Feld, S. C. (1960). *Americans view their mental health*. New York: Basic Books.

- Gutierrez, L. (1994). Beyond coping: An empowerment perspective on stressful life events. *Journal of Sociology and Social Welfare, 21*, 201-219.
- Hart, H. M., McAdams, D. P., Hirsch, B. J., & Bauer, J. J. (2001). Generativity and social involvement among African Americans and White adults. *Journal of Research in Personality, 35*, 208-230.
- Havighurst, R. J. (1961). Successful aging. *The Gerontologist, 1*, 8-13.
- Heaphy, E. D., & Dutton, J. E. (2008). Positive social interactions and the human body at work: Linking organizations and physiology. *Academy of Management Review, 33*, 137-162.
- Hedden, T., & Gabrieli, J. D. E. (2004). Insights into the aging mind: A view from cognitive neuroscience. *Nature Reviews Neuroscience, 5*(2), 87-96.
- Helson, H. *Adaptation-level theory*. New York: Harper & Row, 1964.
- Helson, R., Jones, C., & Kwan, V. S. Y. (2002). Personality change over 40 years of adulthood: Hierarchical linear modeling analyses of two longitudinal samples. *Journal of Personality and Social Psychology, 83*(3), 752-766.
- Helson, R., Mitchell, V., & Moane, G. (1984). Personality and patterns of adherence and nonadherence to the social clock. *Journal of Personality and Social Psychology, 46*, 1079-1096.
- Helson, R., & Moane, G. (1987). Personality change in women from college to midlife. *Journal of Personality and Social Psychology, 53*, 176-186.
- Helson, R., & Wink, P. (1992). Personality change in women from the early forties to the early fifties. *Journal of Personality and Social Psychology, 7*, 46-55.
- Helson, R., & Stewart, A. J. (1994). Personality change in adulthood. In T. Heatherton & J. Weinberger (Eds.), *Can personality change?* (pp. 201-225). Washington, DC: American Psychological Association.
- Henderson, D. (1997). Intersecting race and gender in feminist theories of women's psychological development. *Issues in Mental Health Nursing, 18*, 377-393
- Herbert, R. S., Weinstein, E., Martire, L. M., & Schulz, R. (2006). Religion, spirituality and the well-being of informal caregivers: A review, critique, and research prospectus. *Aging and Mental Health, 10*(5), 497-520.
- Herbst, J. H., McCrae, R. R., Costa, P. T. Jr, Feaganes, J. R., & Siegler, I. C. (2000). Self-perceptions of stability and change in personality at midlife: the UNC Alumni Heart Study. *Assessment, 7*(4), 379-388.

- Herzog, A. R., & Morgan, J. N. (1993). Formal volunteer work among older Americans. In S. A. Bass, F. G. Caro, & Y. Chen (Eds), *Achieving a productive aging society* (pp. 119-142). Westport: Auburn.
- Herzog, A. R., Rodgers, W. L., & Woodworth, J. (1982). *Subjective well-being among different age groups*. Ann Arbor University of Michigan, Institute for Social Research, Survey Research Center.
- Herzog, A. R., & Wallace, R. B. (1997). Measures of cognitive functioning in the AHEAD Study. *Journal of Gerontology: Psychological and Social Sciences, 52B Special Issue*, S37-S48.
- Higginbotham, E., & Weber, L. (1992). Moving up with kin and community: Upward social mobility for Black and White women. *Gender and Society, 6*, 416–440.
- Hollingshead, A. B., & Redlich, F. C. *Social Class and Mental Illness*. New York: John Wiley and Sons, Inc.
- Holstein, M. (1999). Women and productive aging: Troubling implications. In M. Minkler & C. Estes (Eds.), *Critical gerontology*. Amityville, NY: Baywood.
- Hooker, K., & McAdams, D. P. (2003). Personality reconsidered: A new agenda for aging research. *The Journals of Gerontology: Series B: Psychological Sciences and Social Sciences, 58B(6)*, P296-P304.
- House, J. S. (1981), *Work Stress and Social Support*. Reading, MA: Addison-Wesley.
- House, J. S. (1992). Aging, health behaviors, and health outcomes: Some concluding comments. In K. W. Schaie, D. Blazer, & J. S. House (Eds.), *Aging, Health Behaviors, and Health Outcomes*. Hillsdale, NJ: Erlbaum.
- House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *Science, 241*, 540-545.
- House, J. S., Lantz, P. M. & Herd, P. (2005). Continuity and change in the social stratification of aging and health over the life course: Evidence from a nationally representative longitudinal study from 1986 to 2001/2002 (Americans' Changing Lives Study). *Journals of Gerontology Series B-Psychological Sciences and Social Sciences, 60*: 15-26.
- House, J. S. & Williams, D.R. (2000). Understanding and reducing socioeconomic and racial/ethnic disparities in health. In B. D. Smedly & S. L. Syme (Eds.) *Promoting health: Intervention strategies from social and behavioral research*. Washington, D.C.: National Academy of Sciences Press.

- Howse, K. (1999). *Religion, spirituality and older people*. London: CPA.
- Hughes, J. W., Tomlinson, A., Blumenthal, J. A., Davidson, J., & Sketch, M. H. (2004). Social support and religiosity as coping strategies for anxiety in hospitalized cardiac patients. *Annals of Behavioral Medicine, 28*(3), 179-185.
- Huta, V., & Zuroff, D. (2008). Examining mediators of the link between generativity and well-being. *Journal of Adult Development, 14*, 47-52.
- Inui, T. S. (2003). The need for an integrated biopsychosocial approach to research on successful aging. *Annals of Internal Medicine, 139*(5), 391-394.
- Ironson, G., & Hayward, H. (2008). Do positive psychosocial factors predict disease progression in HIV-1? A review of the evidence. *Psychosomatic Medicine, 70*(5), 546-554.
- Israel, B., Checkoway, B., Schulz, A., & Zimmerman, M. (1994). Health education and community empowerment: Conceptualizing and measuring perceptions of individual, organizational, and community control. *Health Education Quarterly, 21*(2), 149-170.
- Jackson, J. S., Antonucci, T. C., & Gibson, R. C. (1993). Cultural and ethnic contexts of aging productively over the life course: An economic network framework. In S. A. Bass, F. G. Caro, & Y. P. Chen (Eds.), *Achieving a productive aging society* (pp. 249-268). Westport, CT: Greenwood Publishing Group, Inc.
- Jacques, E. (1965). Death and middle life crisis. *International Journal of Psychoanalysis, 46*, 502-514.
- James, S. A. (1994). John Henryism and the health of African-Americans. *Culture, Medicine and Psychiatry, 18*, 163-182.
- Jayakody, R., & Chatters, L. M. (1997). Differences among African American single mothers: Marital status, living arrangements and family support. In R. J. Taylor, L. M. Chatters, & J. S. Jackson (Eds.), *Family life in Black America*. Newbury Park, CA: Sage.
- Jones, C. J., Livson, N., & Peskin, H. (2003). Longitudinal hierarchical linear modeling analyses of California Psychological Inventory data from age 33 to 75: An examination of stability and change in adult personality. *Journal of Personality Assessment, 80*(3), 294-308.
- Jones, C. J., & Meredith, W. (1996). Patterns of personality change across the life span. *Psychology and Aging, 11*, 57-65.

- Jorm, A. F., Scott, R., Henderson, A. S., & Kay, D. W. (1988). Educational level differences on the Mini-Mental State: The role of test bias. *Psychological Medicine, 18*(3), 727-31.
- Kafer, R. A., Rakowski, W., Lachman, M., & Hickey, T. (1980). Aging opinion survey: A report on instrument development. *International Journal of Aging and Human Development, 11*, 319-333.
- Kahn, R. L., & Antonucci, T. C. (1980). Convoys over the life course: Attachment, roles, and social support. In P. B. Baltes, & O. Brim (Eds.), *Life-span development and behavior (Vol. 3)*. New York: Academic Press.
- Kanning, M., & Schlicht, W. (2008). A bio-psychosocial model of successful aging as shown through the variable “physical activity”. *European Review of Aging and Physical Activity, 5*(2), 79-87.
- Kaplan, G. A., Siefert, K., Ranjit, N., Raghunathan, T. E., Young, E. A., Tran, D., Danziger, S., Hudson, S., Lynch, J. W. & Tolman, R. (2005). The health of poor woman under welfare reform. *American Journal of Public Health, 95*(7), 1252-1258.
- Karoly, P. (1993). Mechanisms of self-regulation: A systems view. *Annals and Review of Psychology, 44*, 23-52.
- Katz, S. (2000). Busy bodies: Activity, aging, and the management of everyday life. *Journal of Aging Studies, 14*, 135–152.
- Katz, S., & Marshall, B. L. (2004). Is the functional ‘normal’? Aging, sexuality and the bio-marking of successful living. *History of the Human Sciences, 17*, 53.
- Kawachi, I., Daniels, N., & Robinson D. (2005). Health disparities by race and class: Why both matter. *Health Affairs, 24*(2), 343-52.
- Kazanjian, A., & Hankivsky, O. (2008). Reflections on the future of women’s health research in a comparative context: Why more than sex and gender matters. *Women’s Health Issues, 18*(5), 343-346.
- Kessler, R. C. (1997). The effects of stressful life events on depression. In: J. T. Spence (Ed.). *Annual Review of Psychology, 48*, 191–214. Palo Alto, CA: Annual Reviews Inc.
- Keyes, C. L., & Ryff, C. D. (1998). Generativity in adult lives: Social structural contours and quality of life consequences. In D. P. McAdams & E. de St. Aubin (Eds.), *Generativity and adult development: How and why we care for the next generation* (pp. 227–263). Washington, DC: American Psychological Association.

- King, D. K. (1988). Multiple jeopardy, multiple consciousnesses: The context of a Black feminist ideology. *Signs, 14*, 42-72.
- Kirkcaldy, B., & Furnham, A. (1991). Extraversion, neuroticism, psychoticism and recreational choice. *Personality and Individual Differences, 12*, 737-745.
- Klemmack, D. L., & Roff, L. L. (1984). Fear of personal aging and subjective well-being in later life. *Journal of Gerontology, 39*, 756-758.
- Klonoff, E. A., Landrine, H. & Ullman, J. B. (1999). Racial discrimination and psychiatric symptoms among Blacks. *Cultural Diversity & Ethnic Minority Psychology, 5*, 329-339.
- Koch, J. R. (2008). Is religion a health resource for the poor? *The Social Science Journal, 45*(3), 497-503.
- Koenig, H. G., McCullough, M. E., & Larson, D. B. (2001). *Handbook of religion and health*. New York: Oxford University Press.
- Konlaan, B. B., Bygren, L. O., & Johansson, S. E. (2000). Visiting the cinema, concerts, museums or art exhibitions as determinant of survival: A Swedish fourteen-year cohort follow-up. *Scandinavian Journal of Public Health, 28*(3), 174-178.
- Kotre, J. (1984). *Outliving the Self: Generativity and the Interpretation of Lives*. Baltimore: Johns Hopkins University Press.
- Kraaij, V., & de Wilde, E. J. (2001). Negative life events and depressive symptoms in the elderly: a life span perspective. *Aging and Mental Health, 5*(1), 84-91.
- Kramer, A. F., & Erickson, K. I. (2007). Capitalizing on cortical plasticity: influence of physical activity on cognition and brain function. *Trends in Cognitive Sciences, 11*(8), 342-348.
- Kramer, J., Delis, D., & Daniel, M. (1988). Sex differences in verbal learning. *Journal of Clinical Psychology, 44*, 907-915.
- Krieger, N. (2001). Theories for social epidemiology in the 21st century: An ecosocial perspective. *International Journal of Epidemiology, 30*, 668-677.
- Krieger, N., Williams, D., & Moss, N. (1997). Measuring social class in US public health research: Concepts, methodologies and guidelines. *Annual Review of Public Health, 18*, 341-378.
- Kubzansky, L. D., Berkman, L. F., Glass, T. A., & Seeman, T. E. (1998). Is educational attainment associated with shared determinants of health in the elderly? Findings

- from the MacArthur studies of successful aging. *Psychosomatic Medicine*, 60, 578-585.
- Kubzansky, L. D., Kawachi, I., Weiss, S. T., & Sparrow, D. (1998). Anxiety and coronary heart disease: A synthesis of epidemiological, psychological, and experimental evidence. *Annals of Behavioral Medicine*, 20(2), 47-58.
- Kunzmann, U., Little, T. D., & Smith, J. (2000). Is age-related stability of subjective well-being a paradox? Cross-sectional and longitudinal evidence from the Berlin Aging Study. *Psychology and Aging*, 15(3), 511-526.
- Labouvie-Vief, G. (2003). Dynamic integration: Affect, cognition, and the self in adulthood. *Current Directions in Psychological Science*, 12, 201-206.
- Landen, M., Baghaei, F., Rosmond, R., Holm, G., Bjorntorp, P., & Eriksson, E. (2004). Dyslipidemia and high waist-hip ratio in women with self-reported social anxiety. *Psychoneuroendocrinology*, 29, 1037-1046.
- Landrine, H. & Klonoff, E. A. (1996). The schedule of racist events: A measure of racial discrimination and a study of its negative physical and mental health consequences. *Journal of Black Psychology*, 22, 144-168.
- Lang, F. R., & Carstensen, L. L. (2002). Time counts: future time perspective, goals, and social relationships. *Psychology and Aging*, 17, 125-139.
- Lantz, P. M., House, J. S., Mero, R., & Williams, D. A. (2005). Stress, life events and socioeconomic disparities in health: Results from the Americans' Changing Lives study. *Journal of Health and Social Behavior*, 46(3), 274-288.
- Larson, D. B., Sherrill, K. A., Lyons, J. S., Craigie, F. C. Jr., Thielman, M. A., Greenwold, M. A., & Larson, S. S. (1992). Associations between dimensions of religious commitment and mental health reported in the American Journal of Psychiatry and Archives of General Psychiatry: 1978-1989. *The American Journal of Psychiatry*, 149(4), 557-559.
- Lasher, K. P., & Faulkender, P. J. (1993). Measurement of aging anxiety: Development of the Anxiety About Aging Scale. *International Journal of Aging and Human Development*, 37, 247-259.
- Launer, L. J., Dinkgreve, M., Jonker, C., Hooijer, C. & Lindeboom, J. (1993). Are age and education independent correlates of the Mini-Mental State Exam performance of community-dwelling elderly? *Journal of Gerontology: Psychological Sciences* 48, 271-277.
- Lavretsky, H., & Irwin, M. R. (2007). Resilience and aging. *Aging and Health*, 3(3), 309-323.

- Lawler, K. A., & Younger, J. W. (2002). Theobiology: An analysis of spirituality, cardiovascular responses, stress, mood and physical health. *Journal of Religion and Health, 41*, 347-362.
- Lawton, M. P. (1984). The varieties of well-being. In C. Malatesta & C. E. Izard (Eds.), *Emotion in adult development*. Beverly Hills, CA: Sage.
- Lawton, M. P., Kleban, M. H., Moss, M., Rovine, M., & Glicksman, A. (1989). Measuring Caregiving Appraisal. *Journal of Gerontology, 44*, 61-71.
- Lazarus, R. S., & Cohen, J. B. (1977). Environmental stress. In I. Altman and J. F. Wohlwill (Eds.), *Human Behavior and Environment (Vol 2)*. New York: Plenum.
- Lazarus, R., S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Le Carret, N., Lafont, S., Mayo, W., & Fabrigoule, C. (2003). The effect of education on cognitive performances and its implication for the constitution of the cognitive reserve. *Developmental Neuropsychology, 23*(3), 317-337.
- Levin, J. S., & Chatters, L. M. (1998). Religion, health, and psychological well-being in older adults. *Journal of Aging and Health, 10*, 504-531.
- Levinson, D. J. (1978). *The seasons of a man's life*. New York: Knopf.
- Lewis, D. M., & Cachelin, F. M. Body image, body dissatisfaction, and eating attitudes in midlife and elderly women. *The Journal of Treatment & Prevention, 9*(1), 29-39.
- Lewis, T. T., Barnes, L. L., Bienias, J. L., Lackland, D. T., Evans, D. A., & Mendes de Leon, C. F. (2009). Perceived discrimination and blood pressure in older African American and White adults. *Journal of Gerontology. Series A, Biological Sciences and Medical Sciences, 64*(9), 1002-1008.
- Lewis, T. T., Everson-Rose, S. A., Powell, L. H., Matthews, K. A., Brown, C., Karavolos, K., Sutton-Tyrell, K., Jacobs, E., & Wesley, D. (2006). Chronic exposure to everyday discrimination and coronary artery calcification in African-American women: The SWAN Heart Study. *Psychosomatic Medicine, 68*(3), 362-368.
- Lincoln, K. D., Chatters, L. M., Taylor, R. J. & Jackson, J. S. (2007). Profiles of depressive symptoms among African Americans and Caribbean Blacks. *Social Science and Medicine, 65*, 200-213.

- Lippa, R. A., Martin, L. R., & Friedman, H. S. (2000). Gender-related individual differences and mortality in the Terman longitudinal study: Is masculinity hazardous to your health? *Personality and Social Psychology Bulletin*, 26, 1560-1570.
- Lykes, M. B. (1983). Discrimination and coping in the lives of Black women: Analyses of oral history data. *Journal of Social Issues*, 39(3), 79-100.
- Lynch, S. (2000). Measurement and prediction of aging anxiety. *Research on Aging*, 22, 533-558.
- Lynch, J., & Kaplan, G. A. (2000). Socioeconomic position. In L. F. Berkman, & I. Kawachi (Eds.), *Social Epidemiology*, New York, NY: Oxford University Press,
- Maddox, G. L. (1965). Fact and artifact: Evidence bearing on disengagement theory. *Human Development*, 8, 117-130.
- Maddox, G. L. (1968). "Persistence of life style among the elderly: A longitudinal study of patterns of social activity in relation to life satisfaction". In B. L. Neugarten (Ed.), *Middle Age and Aging: A Reader in Social Psychology*. Chicago: University of Chicago Press.
- Mallet, R. K., & Swim, J. K. (2005). Bring it on: Proactive coping with discrimination. *Motivation and Emotion*, 29(4), 411-441.
- Manly, J. J., & Jacobs, D. (2002). Future directions in neuropsychological assessment with African Americans. In R. Ferrarro (Ed.), *Minority and cross-cultural aspects of neuropsychological assessment*. Swets & Zeitlinger.
- Manly, J. J., Jacobs, D. M., Sano, M., Merchant, C. A., Small, S. A., & Stern, Y. (1999). Effect of literacy on neuropsychological test performance in nondemented, education-matched elders. *Journal of the International Neuropsychological Society*, 5, 191-202.
- Manly, J. J., & Mayeux, R. (2004). *Ethnic differences in dementia and Alzheimer's Disease: Critical perspectives on racial and ethnic differences in late life*. Washington D.C.: The National Academies Press.
- Manton, K. G., & Gu, X. L. (2001). Changes in the prevalence of chronic disability in the United States black and non-black population above age 65 from 1982-1999. *Proceedings of the National Academy of Sciences of the USA*, 98, 6354-6359.
- Marks, N., Lambert, J. D., & Choi, H. (2002). Transitions to caregiving, gender, and psychological well-being: A prospective U.S. national study. *Journal of Marriage and Family*, 64, 657-667.

- Marks, S. R. (1977). Multiple roles and role strain: Some notes on human energy, time and commitment. *American Sociological Review*, 42, 921-936.
- Marmot, M. (2006). Health inequalities: Good intentions and good results? *Lancet*, 367, 201–202.
- Marmot, M., Shipley, M. J., & Rose, G. (1984). Inequalities in death: Specific explanations of a general pattern? *The Lancet*, 1(8384), 1003-1006.
- Martinson, M. & Minkler, M. (2006). Civic engagement and older adults: A critical Perspective. *Gerontologist*, 46(3), 318-324.
- Marx, M. S., Pannell, A. R., Parpura-Gill, A., & Cohen-Mansfield, J. (2004). Direct observations of children at risk for academic failure: Benefits of an intergenerational visiting program. *Educational Gerontology*, 30, 663-675.
- Masoro, E. J. (2001). A conceptual Assessment of age-associated physiological changes in mammals. In V. J. Cristofalo, R. Adelman, and K. W. Schaie (Eds), *Annual Review of Gerontology and Geriatrics*, 21, 57-66. New York: Springer.
- Mather, M. & Carstensen, L. L. (2003). Aging and attentional biases for emotional faces. *Psychological Science*, 14(5), 409-415.
- Mather, M. & Carstensen, L. L. (2005). Aging and motivated cognition: The positivity effect in attention and memory. *Trends in Cognitive Science*.
- Matsushima, R., & Shiomi, K. (2003). Developing a scale of self-efficacy in personal relationships for adolescents. *Psychological Reports*, 92(1), 323-332.
- Matthews, S. H. (1988). The burdens of parent care: A critical evaluation of recent findings. *Journal of Aging Studies*, 2(2), 157-165.
- McAdams, D. P. (1985). *Power, intimacy, and the life story: Personological inquiries into identity*. Homewood, IL: The Dorsey Press.
- McAdams, D. P., & de St. Aubin, E. (1992). A theory of generativity and its assessment through self-report, behavioral acts, and narrative themes in autobiography. *Journal of Personality and Social Psychology*, 62, 1003–1015.
- McAdams, D. P., de St. Aubin, E., & Logan, R. (1993). Generativity among young, midlife, and older adults. *Psychology and Aging*, 8, 221-230.
- McAdams, D. P., Hart, H. M., & Maruna, S. (1998). The anatomy of generativity. In D. P. McAdams & E. de St. Aubin (Eds.), *Generativity and adult development: Psychosocial perspectives on caring for and contributing to the next generation*. Washington, DC: American Psychological Association Press.

- McAdams, D. P., & Logan, R. L. (2004). What is generativity? In *The generative society: Caring for future generations*. Washington, DC: American Psychological Association.
- McCann Mortimer, P., Ward, L., & Winefield, H. (2008). Successful aging by whose definition? Views of older, spiritually affiliated women. *Australia Journal of Aging, 27*(4), 200-204.
- McClelland, G. H. & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin, 114*, 376-390.
- McDougall, G. J., Vaughan, P. W., Acee, T. W., & Becker, H. (2007). Memory performance and mild cognitive impairment in black and white community elders. *Ethnicity & Disease, 17*(2), 381-388.
- McEwen, B. S. (1998). Stress, adaptation and disease: Allostasis and allostatic load. *Annals of the New York Academy of Sciences, 840*, 33-44.
- McEwen, B. S., & Stellar, E. (1993). Stress and the individual: Mechanisms leading to disease. *Archives of Internal Medicine, 153*(18), 2093–2101.
- McHorney, C. A., Ware, J. E., Lu, J. F. R., & Sherbourne, C. D. (1994). The MOS 36-Item Short-Form Health Survey (SF-36®): III. tests of data quality, scaling assumptions and reliability across diverse patient groups. *Medical Care, 32*(4), 40-66.
- Meyer, M. J. (1989). Dignity, rights, and self-control. *Ethics, 99*, 520–534.
- Miller, W. R., & Thoresen, C. E. (2003). Spirituality, religion, and health: An emerging research field. *American Psychologist, 58*, 24-35.
- Miner-Rubino, K., Winter, D. G., Stewart, A. J. (2004). Gender, social class, and the subjective experience of aging: Self-perceived personality change from early adulthood to late midlife. *Personality and Social Psychology Bulletin, 30*, 1599-1610.
- Minkler, M., & Estes, C. L. (1999). *Critical Gerontology: Perspectives from Political and Moral Economy*. New York: Baywood.
- Minkler, M., & Fadem, P. (2002). Successful aging. *Journal of Disability Policy Studies, 12*(4), 229-235.
- Mirowsky, J., & Ross, C. E. (2003a). *Education, Social Status, and Health*. New Brunswick, N.J.: Aldine Transaction.

- Mirowsky, J., & Ross, C. E. (2003b). *Social Causes of Psychological Distress, 2nd Edition*. New Brunswick, N.J.: Aldine Transaction.
- Mischel, W. & Shoda, Y. (1998). Reconciling processing dynamics and personality dispositions. *Annual Review of Psychology, 49*, 229-258.
- Moen, P. (2001). The gendered life course. In G. Binstock (Eds.) *Handbook of aging and the social sciences (5th Edition)*. San Diego, CA: Academic Press.
- Moen, P., & Chermack, K. (2005). Gender disparities in health: Strategic selection, careers, and cycles of control. *The Journals of Gerontology: Series B: Psychological Sciences and Social Sciences, 60B(2)*, 99-108.
- Moen, P., Dempster-McClain, D., & Williams, R. W., Jr. (1992). Successful aging: A life course perspective on women's multiple roles and health. *American Journal of Sociology, 97(6)*, 1612-1638.
- Moen, P., Robison, J., & Dempster-McClain, D. (1995). Caregiving and women's well-being: A life course approach. *Journal of Health and Social Behavior, 36*, 259-273.
- Montepare, J. M. (1996). Actual and subjective age-related differences in women's attitudes toward their bodies across the lifespan. *Journal of Adult Development, 3*, 171-182.
- Moody-Ayers, S. Y., Mehta, K. M., Lindquist, K., Sands, L., & Covinsky, K. E. (2005). Black-white disparities in functional decline in older persons: The role of cognitive function. *Journal of Gerontology Series A Biological Sciences and Medical Sciences, 60(7)*, 933-939.
- Morrow-Howell, N., Hinterlong, J., Rozario, P. A. & Tang, F. (2003). The effects of volunteering on the well-being of older adults. *Journals of Gerontology: Social Sciences, 58B(3)*, S137-S145.
- Morrow-Howell, N., Tang, F., Kim, J., Lee, M., & Sherraden, M. (2005). Maximizing the productive engagement of older adults. In M. L. Wykle, P. J. Whitehouse, & D. L. Morris (Eds.), *Successful aging through the life span: Intergenerational issues in health*, 19-43. New York: Springer.
- Mroczek, D. K., Spiro, A., Almeida, D. M., & Pafford, C. (2006). Intraindividual change in personality. In D. K. Mroczek & T. D. Little (Eds.), *Handbook of personality development*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Mullings, L. (2005). Interrogating Racism: Toward an antiracist anthropology. *Annual Review of Anthropology, 34*, 667-93.
- Mullings, L., & Wali, A. (2001). *Stress and resilience: The social context of reproduction*

- in central Harlem*. New York: Kluwer Academic/Plenum.
- Murtagh, K. N., & Hubert, H. B. (2004). Gender differences in physical disability among an elderly cohort. *American Journal of Public Health, 94*, 1406–1411.
- Musick, M. A., Herzog, A. R., & House, J. S. (1999). Volunteering and mortality among older adults: Findings from a national sample. *Journal of Gerontology: Social Science, 54B*(3), S173-S180.
- Musick, M. & Wilson, J. (2003). Volunteering and Depression: The role of psychological and social resources in different age groups. *Social Science and Medicine, 56*(2), 259-269.
- Navaie-Waliser, M., Feldman, P. H., Gould, D. A., Levine, C. L., Kuerbis A. N., & Donelan, K. (2002). When the caregiver needs care: The plight of vulnerable caregivers. *American Journal of Public Health, 92*(3), 409–413.
- Neugarten, B. L. (1968). *Middle age and aging: A reader in social psychology*. Chicago: University of Chicago Press.
- Noh, S. & Kaspar, V. (2003) Perceived discrimination and depression: moderating effects of coping, acculturation, and ethnic support. *American Journal of Public Health, 93*(2), 232–8.
- Okun, M. A. (1993). Predictors of volunteer status in a retirement community. *International Journal of Aging and Human Development, 36*(1), 57-74.
- Oldham, J. M., & Liebert, R. S. (1989). *The middle years: New psychoanalytic perspectives*. New Haven, CT: Yale University press.
- Oman, D. (2007). Does volunteering foster physical health and longevity? In S. Post (Ed.), *Altruism and health* (pp. 15–32). New York: Oxford University Press.
- O’Rand, A. M. & Henretta, J. C. (1998). *Age and inequality: Diverse pathways through later life*. Boulder: Westview Press.
- Ostrove, J. M., & Adler, N. E. (1998). Socioeconomic status and health. *Current Opinions in Psychiatry, 11*, 649-653.
- Ostrove, J. M., Feldman, P., & Adler, N. E. (1999). Relations among socioeconomic status indicators and health for African Americans and Whites. *Journal of Health Psychology, 4*, 451-463.
- Ouwehand, C., De Ridder, D., & Bensing, J. (2007). A review of successful aging models: Proposing proactive coping as an important additional strategy. *Clinical Psychology Review, 27*, 873-884.

- Palmore, E. B. (1968). The effects of aging on activities and attitudes. *The Gerontologist*, 8, 259-263.
- Palmore, E. B. (1979). Predictors of successful aging. *The Gerontologist*, 19, 427-431.
- Pappas, G., Queen, S., Hadden, W., & Fisher, G. (1993). The increasing disparity in mortality between socioeconomic groups in the United States, 1960 and 1986. *New England Journal of Medicine*, 329, 103-109.
- Pascoe, E. A., & Smart Richman, L. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin*, 135(4), 531-554.
- Pearlin, L. I., Lieberman, M. A., Menaghan, E. G., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social Behavior*, 22, 337-356.
- Pearlin, L. I., Nguyen, K. B., Schieman, S., & Milkie, M. A. (2007). The life course origins of mastery. *Journal of Health and Social Behavior*, 48, 164-79.
- Pearlin, L. I., & Schooler, C. (1978). The structure of coping. *The Journal of Health and Social Behavior*, 19, 2-21.
- Pearlin, L. I., & Skaff, M. M. (1996). Stress and the life course: A paradigmatic alliance. *The Gerontologist*, 36(2), 239-247.
- Peel, N. M., McClure, R. J., & Bartlett, H. P. (2005). Behavioral determinants of healthy aging. *American Journal of Preventive Medicine*, 28, 298-304.
- Pervin, L. A., & John, O. P. (1999). *Personality: Theory and research* (2nd ed.). New York: Wiley.
- Peterson, B. E. (2002). Longitudinal analysis of midlife generativity, intergenerational roles, and caregiving. *Psychology and Aging*, 17(1), 161-168.
- Peterson, B. E., & Duncan, L. E. (2007). Midlife women's generativity and authoritarianism: Marriage, motherhood, and 10 years of aging. *Psychology and Aging*, 22(3), 411-419.
- Peterson, B. E., & Klohnen, E. C. (1995). Realization of generativity in two samples of women at midlife. *Psychology and Aging*, 10, 20-29.
- Peterson, B. E., Smirles, K. A., & Wentworth, P. A. (1997). Generativity and authoritarianism: Research on personality, parenting, and political involvement. *Journal of Personality and Social Psychology*, 72(5), 1202-1216.
- Peterson, C. (2000). The future of optimism. *American Psychologist*, 55, 44-55.

- Phelan, E. A., Anderson, L. A., LaCroix, A. Z., & Larson, E. B. (2004). Older adults' views of 'successful aging'— how do they compare with researcher's definitions? *Journal of the American Geriatrics Society*, 52(2), 211-216.
- Pinquart, M., & Sörensen, S. (2003). Associations of stressors and uplifts of caregiving with caregiver burden and depressive mood: a meta-analysis. *Journals of Gerontology Series B-Psychological Sciences & Social Sciences*, 58, P112-P128.
- Pinquart, M., & Sörensen, S. (2003). Differences between caregivers and noncaregivers in psychological health and physical health: a meta-analysis. *Psychology and Aging*, 18(2), 250-267.
- Pollitt, R. A., Daniel, M., Kaufman, J. S., Lynch, J. W., Salonen, J. T., & Kaplan, G. A. (2005). Mediation and modification of the association between hopelessness, hostility, and the progression of carotid atherosclerosis. *Journal of Behavioral Medicine*, 28, 53-64.
- Pope, M. L., & Smith, T. W. (1991). Cortisol excretion in high and low cynically hostile men. *Psychosomatic Medicine*, 53, 386-392.
- Post, S. (2007). *Altruism and health*. New York: Oxford University Press.
- Powell, L. H., Shahabi, L., & Thoresen, C. E. (2003). Religion and spirituality: linkages to physical health. *American Psychologist*, 58, 36-52.
- Quadagno, J. (2007). *Aging and the life course: An introduction to social gerontology* (4th edition). New York: McGraw-Hill.
- Quadagno, J., & Reid, J. (1999). The political economy of aging. In V. Bengtson and K. W. Schaie (Eds.), *Handbook of Theories of Aging*. New York: Springer.
- Reichstadt, J., Depp, C. A., Palinkas, L. A., Folsom, D. P., & Jeste, D. V. (2007). Building blocks of successful aging: A focus group study of older adults' perceived contributors to successful aging. *American Journal of Geriatric Psychiatry*, 15, 194-201.
- Reite, M., Cullum, C. M., Stocker, J., Teale, P., & Kozoro, E. (1993). Neuropsychological test performance and MEG-based brain lateralization: Sex differences. *Brain Research Bulletin*, 32(3), 325-328.
- Rich-Edwards, J. W., Buka, S. L., Brennan, R. T., & Earls, F. (2003). Diverging associations of maternal age with low birthweight for Black and White mothers. *International Journal of Epidemiology*, 32, 83-90.

- Riediger, M., & Freund, A. M. (2006). Focusing and restricting: Two aspects of motivational selectivity in adulthood. *Psychology and Aging, 21*, 173-185.
- Riley, M. W. & Riley, J. W. (1994). Structural lag: Past and future. In Riley, M.W., Kahn, R. L., & Foner, A. *Age and Structural Lag*. New York: Wiley.
- Roberts, J. S., & Silverio, E. A. (2009). Evaluation of an education and support program for early-stage Alzheimer's disease. *Journal of Applied Gerontology, 28*, 419-435.
- Robles, T. F., & Kiecolt-Glaser, J. K. (2003). The physiology of marriage: Pathways to health. *Physiological Behavior, 79*, 409-416.
- Romero, R. E. (2000). The icon of the strong black woman: the paradox of strength. In L.C. Jackson & B. Greene (Eds.), *Psychotherapy with African-American women: Innovations in psychodynamic perspectives and practice* (pp. 225-238). New York, NY: Guilford press.
- Roos, N. P., & Havens, B. (1991). Predictors of successful aging: A twelve-year of Manitoba elderly. *American Journal of Public Health, 81*, 63-68.
- Rothermund, K., & Brandtstädter, J. (2003a). Coping with deficits and losses in later life: From compensatory action to accommodation. *Psychology and Aging, 18*, 896-905.
- Rothermund, K., & Brandtstädter, J. (2003b). Depression in later life: Cross-sequential patterns and possible determinants. *Psychology and Aging, 18*, 80-90.
- Rowe, J. W. (1997). The new gerontology. *Science, 17(278)*, 367-368.
- Rowe, J. W., & Kahn, R. L. (1987). Human aging: Usual and successful. *Science, 237*, 143-149.
- Rowe, J. W., & Kahn, R. L. (1997). Successful aging. *Gerontologist, 37(4)*, 433-440.
- Rozario, P. A., Chadiha, L. A., Proctor, E. K., & Morrow-Howell, N. (2008). Predicting the influence of social resources on African American wife and daughter caregivers' depressive symptoms. *Journal of Family Issues, 29(3)*, 317-333.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57(6)*, 1069-1081.
- Ryff, C. D., & Heincke, S. G. (1983). Subjective organization of personality in adulthood and aging. *Journal of Personality and Social Psychology, 44*, 807-816.

- Ryff, C. D., & Migdal, S. (1984). Intimacy and generativity: Self-perceived transitions. *Signs, 9*, 470–481.
- Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2002). Assessing “neighborhood effects”: Social processes and new directions in research. *Annual Review of Sociology, 28*, 443-478.
- Scarf, M. (1980). *Unfinished business*. New York: Doubleday.
- Scheidt, R. J., Humpherys, D. R., & Yorgason, J. B. (1999). Successful aging: What’s not to like? *Journal of Applied Gerontology, 18*(3), 277-282.
- Schoeni, R. F., Martin, L. G., Andreski, P. M., & Freedman, V. A. (2005). Persistent and growing socioeconomic disparities in disability among the elderly: 1982-2002. *American Journal of Public Health, 95*(11), 2065-2070.
- Schulz, R., O’Brien, A. T., Bookwala, J., & Fleissner, K. (1995). Psychiatric and physical morbidity effects of dementia caregiving: Prevalence, correlates, and causes. *The Gerontologist, 35*, 771–791.
- Schulz, A. J., Parker, E., Israel, B., & Fisher, T. (2001). Social context, stressors, and disparities in women’s health. *Journal of the American Medical Women’s Association, 56*, 143-149.
- Schulz, A. J. & Mullings, L. (2006). *Gender, Race, Class and Health: Intersectional Approaches*. San Francisco: Jossey-Bass.
- Schulz, R., & Heckhausen, J. (1996). A life span model of successful aging. *American Psychologist, 51*(7), 702-714.
- Schulz, R., Newsom, J., Mittelmark, M., Burton, L., Hirsch, C. & Jackson, S. (1997). Health effects of caregiving: The Caregiver Health Effects Study: an ancillary study of The Cardiovascular Health Study. *Annals of Behavioral Medicine, 19*, 110-116.
- Schulz, R., O’Brien, A. T., Bookwala, J., & Fleissner, K. (1995). Psychiatric and physical morbidity effects of dementia caregiving: Prevalence, correlates, and causes. *Gerontologist, 35*, 771-791.
- Seeman, T. E. (2000). Health promoting effects of friends and family on health outcomes in older adults. *American Journal of Health Promotion, 14*(6), 362-370.
- Seeman, T. E., Charpentier, P. A., Berkman, L. F., Tinetti, M. E., Guralnik, J. M., Albert, M., Blazer, D., & Rowe, J. W. (1994). Predicting changes in physical performance in a high functioning elderly cohort: MacArthur Studies of Successful Aging. *Journal of Gerontology, 49*, M97-M108.

- Seeman, T. E., Dubin, L. F., & Seeman, M. (2003). Religion/spirituality and health: a critical review of the evidence for biological pathways. *American Psychologist*, *58*, 53-63.
- Seeman, T. E., McEwen, B. S., Rowe, J. W., & Singer, B. H. (2001). Allostatic load as a marker of cumulative biological risk: MacArthur studies of Successful Aging. *The Proceedings of the National Academy of the Sciences of the United States of America*, *98*, 4770-4775.
- Seeman, T. E., Singer, B. H., Ryff, C. D., Dienberg Love, G., & Levy-Storms, L., (2002). Social relationships, gender, and allostatic load across two age cohorts. *Psychosomatic Medicine*, *64*, 395-406.
- Sellers, S. L. (2001). Social mobility and psychological distress: Differences among Black American men and women. *African American Research Perspectives*, *7*(1), 117-147.
- Selye, H. (1950). *The Physiology and Pathology of Exposure to Stress*. Montreal, Canada: Acta Incorporated.
- Sheldon, K. M. & Kasser, T. (2001). Getting older, getting better? Personal strivings and personality development across the life-course. *Developmental Psychology*, *37*, 491-501.
- Slater, C. L. (2003). Generativity versus stagnation: An elaboration of Erikson's adult stage of human development. *Journal of Adult Development*, *10*(1), 53-65.
- Smith, R. E. (1989). Effects of coping skills training on generalized self-efficacy and locus of control. *Journal of Personality and Social Psychology*, *56*, 228-233.
- Smith, J. P., & Kington, R. (1997). Race, socioeconomic status, and health in late life. In L.G. Martin, & B.J. Soldo (Eds), *Racial and ethnic differences in the health of older Americans*, 105-162. Washington DC: National Academy of Sciences Press.
- Smith, S. A., & Tienda, M. (1987). The doubly disadvantaged: Women of color in the U.S. labor force." In A. Stromberg & S. Harkess (Eds.), *Working Women, Second Edition*. Palo Alto: Mayfield Publishing Company.
- Smith, T. W. (2006). Personality as risk and resilience in physical health. *Current Directions in Psychological Science*, *15*(5), 227-231.
- Spencer, S. M., Schulz, R., Rooks, R., Albert, S., Thorpe, Jr., R., & Brenes, G., et al. (2009). Racial differences in self-rated health at similar levels of physical functioning: An examination of health pessimism in the Health, Aging and Body Composition Study. *Journals of Gerontology: Social Sciences*, *64*(1), 87-94.

- Spiro, A., Aldwin, C. M., Ward, K., & Mroczek, D. K. (1995). Personality and the incidence of hypertension among older men: Longitudinal findings from the Normative Aging Study. *Health Psychology, 14*, 563-569.
- Stark, R. (1971). Psychopathology and Religious Commitment. *Review of Religious Research, 12*, 165-176.
- Steptoe, A., Dockray, S., & Wardle, J. (2009). Positive affect and psychobiological processes relevant to health. *Journal of Personality, 77*(6), 1747-1776.
- Stewart, A. J. (1974). Longitudinal prediction from personality to life outcomes among college-educated women (Doctoral dissertation, Harvard University, 1974).
- Stewart, A. J. (1978). A longitudinal study of coping styles of self-defining and socially defined women. *Journal of Consulting and Clinical Psychology, 46*, 1079-1084.
- Stewart, A. J. (1980). Personality and situation in the prediction of women's life patterns. *Psychology of Women Quarterly, 5*, 195-206.
- Stewart, A. J., & Healy, J. M. (1989). Linking individual development and social changes. *American Psychologist, 44*(1), 30-42.
- Stewart, A. J., & Ostrove, J. M. (1998). Women's personality in middle age: Gender, history, and midcourse corrections. *American Psychologist, 53*, 1185-1194.
- Stewart, A. J., Ostrove, J., & Helson, R. (2001). Middle aging in women: Patterns of personality change from the 30s to the 50s. *Journal of Adult Development, 8*, 23-37.
- Stewart, A. J., & Salt, P. (1981). Life-stress, life styles, depression and illness in adult women. *Journal of Personality & Social Psychology, 40*, 1063-1069.
- Stewart, A. J., & Vandewater, E. A. (1993). The Radcliffe class of 1964: Career and family social clock projects in a transitional cohort. In K. Hulbert & D. Schuster (Eds.), *Women's lives through time: Educated American women of the twentieth century* (pp. 235-258). San Francisco: Jossey-Bass.
- Stewart, A. J., & Vandewater, E. A. (1998). The course of generativity. In D. P. McAdams & E. de St. Aubin (Eds.), *Generativity and adult development: How and why we care for the next generation* (pp. 75-100). Washington, DC: American Psychological Association.
- Stock, W. A., Okun, M. A., & Benin, M. (1986). The structure of subjective well-being among the elderly. *Psychology and Aging, 1*, 91-102.

- Stoller, E. P., & Gibson, R. C. (2000). *Worlds of Difference: Inequality in the Aging Experience*. Thousand Oaks, CA: Pine Forge Press.
- Stommel, M., Given, C.W., & Given, B.A. (1998). Racial differences in the division of labor among primary and secondary caregivers. *Research on Aging, 20*, 1, 242-257.
- Strawbridge, W. J., Wallhagen, M. I., & Cohen, R. D. (2002). Successful aging and well-being: Self-rated compared with Rowe and Kahn. *The Gerontologist, 42*(6), 727-733.
- Strickland, B. R. (1978). Internal-external expectancies and health-related behaviors. *Journal of Consulting and Clinical Psychology, 46*, 1192-1211.
- Suls, J., & Fletcher, B. (1985). The relative efficacy of avoidant and non-avoidant coping strategies: A meta-analysis. *Health Psychology, 4*, 249-288.
- Takahashi, T., & Matsushita, H. (2006). Long-term effects of music therapy on elderly with moderate/severe dementia. *Journal of Music Therapy, 43*, 317-333.
- Tallmer, M., & Kutner, B. (1969). Disengagement and the stresses of aging. *Journal of Gerontology, 24*, 70-75.
- Tangri, S. S. (1969). *Role innovation in occupational choice among college women*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor.
- Tangri, S. S. (1972). Determinants of occupational role innovation among college women. *Journal of Social Issues, 28*, 177-199.
- Tangri, S. S., & Jenkins, S. R. (1986). Stability and change in role innovation and life plans. *Sex Roles, 14*, 647-662.
- Tangri, S., & Jenkins, S. (1993). The University of Michigan Class of 1967: The Women's life paths study. In K. D. Hulbert & D. T. Schuster (Eds.), *Women's lives through time* (pp. 259-281). San Francisco: Jossey-Bass.
- Tate, R. B., Lah, L., & Cuddy, T. E. (2003). Definition of successful aging by elderly Canadian males: The Manitoba Follow-up Study. *The Gerontologist, 43*(5), 735-744.
- Thoits, P. A. (1982). Life stress, social support, and psychological vulnerability: epidemiological considerations. *Journal of Community Psychology, 10*, 341-362.
- Thoits, P. A. (1992). Identity structures and psychological well-being: Gender and marital status comparisons. *Social Psychology Quarterly, 44*, 236-256.

- Thoits, P. A., & Hewitt, L. N. (2001). Volunteer work and well-being. *Journal of Health and Social Behavior*, 42(2), 115-131.
- Thomas, S. A., & Gonzalez-Prendes, A. A. (2009). Powerlessness, anger, and stress in African American women: Implications for physical and emotional health. *Health Care for Women International* 30(1), 93-113.
- Tienda, M. & Lii, D. (1987). Minority concentration and earnings inequality: Blacks, Hispanics and Asians Compared. *American Journal of Sociology*, 93, 141-165.
- Tienda, M., Smith, S. A., & Ortiz, V. (1987). Industrial restructuring, gender segregation and sex differences in earnings. *American Sociological Review*, 52, 195-210.
- Tobin, S. S., & Neugarten, B. L. (1961). Life satisfaction and social interaction in the aging. *Journal of Gerontology*, 16(4), 344-346.
- Torges, C. M., Stewart, A. J., & Duncan, L. E. (2008). Achieving ego integrity: Personality development in late midlife. *Journal of Research in Personality*, 42, 1004-1019.
- Tornstam, L. (1996). Gerotranscendence: A theory about maturing into old age. *Journal of Aging and Identity*, 1, 37-50.
- Torres, S. (2002). Relational values and ideas regarding 'successful aging', *Journal of Comparative Family Studies*, 33(3), 417-430.
- Townsend, A., Noelker, L., Deimling, G., & Bass, D. Longitudinal impact of interhousehold caregiving on adult children's mental health. *Psychology and Aging*, 4(4), 393-401.
- Tsigos, C., & Chrousos, G. P. (2002). Hypothalamic-pituitary-adrenal axis, neuroendocrine factors and stress. *Journal of Psychosomatic Research*, 53(4), 865-871.
- Turner, R. J. & Avison, W. R. (2003). Status variations in stress exposure among young adults: Implications for the interpretation of prior research. *Journal of Health and Social Behavior*, 44, 488-505.
- Uchino, B. N. (2006). Social support and health: A review of physiological processes potentially underlying links to disease outcomes. *Journal of Behavioral Medicine*, 29(4), 377-387.
- Unger, J. B., McAvay, G., Bruce, M. L., Berkman, L., & Seeman, T. (1999). Variation in the impact of social network characteristics on physical functioning in elderly persons: MacArthur studies of successful aging. *Journal of Gerontology*, 54B(5), S245-S251.

- Unger, R., & Crawford, M. (1996). *Women and gender: A feminist psychology*, (2nd Ed.). New York: McGraw-Hill.
- U. S. Census Bureau. (2007). *Older adults in 2005*. Washington, D. C. Retrieved November 30, 2007 from <http://www.census.gov/population/www/pop-profile/files/dynamic/OLDER.pdf>.
- Vaillant, G. E. (1977). *Adaptation to Life*. Boston: Little, Brown.
- Vaillant, G. E. (2002). *Aging well: Surprising guideposts to a happier life from the landmark Harvard study of adult development*. Boston: Little Brown & Company.
- Vaillant, G. E. (2004). Positive aging. In P. A. Linley & S. Joseph (Eds.), *Positive Aging in Positive Psychology in Practice*. NJ: John Wiley & Sons.
- Vaillant, G. E., & Koury, S. H. (1993). Late midlife development. In G. H. Pollock & S. I. Greenspan (Eds.), *The Course of Life*. Madison, CT: International Universities Press.
- Vaillant, G. E., & Mukamal, K. (2001). Successful aging. *American Journal of Psychiatry*, 158(6), 839-47.
- Vance, D. E., Ball, K. K., Moore, B. S., & Benz, R. L. (2007). Cognitive remediation therapies for older adults: implications for nursing practice and research. *Journal of the American Association of Neuroscience Nurses*, 39(4), 226-31.
- Verbrugge, L. M., & Wingard, D. L. (1987). Sex differentials in health and mortality. *Women and Health*, 12(2), 103-145.
- Vitaliano, P. P., Russo, J., Young, H. M., Becker, J., & Maiuro, R. D. (1991). The Screen for Caregiver Burden. *The Gerontologist*, 31, 76-83.
- Vitaliano, P., Zhang, J. & Scanlan, J. (2003). Is caregiving hazardous to one's physical health? A meta-analysis. *Psychological Bulletin*, 129(6), 946-972.
- Von Dras, D. D., & Blumenthal, H. T. (2000). Biological, social-environmental, and psychological dialecticism: An integrated model of aging. *Basic and Applied Social Psychology*, 22(3), 199-212.
- Wagnild, G. (2003). Resilience and successful aging: Comparison among low and high income older adults. *Journal of Gerontological Nursing*, 29(12), 42.
- Walker, A. (1981). Towards a political economy of old age. *Aging and Society*, 1(1), 73-94.

- Warburton, J., McLaughlin, D., & Pinsker, D. (2006). Generative acts: Family and community involvement of older Australians. *The International Journal of Aging & Human Development*, 63(2), 115-137.
- Ware, J. E., & Sherbourne, C. D. (1992). The MOS 36-Item Short-Form Health Survey (SF-36): A conceptual framework and item selection. *Medical Care*, 30(6), 473-83.
- Warren-Findlow, J. (2006). Weathering: Stress and heart disease in African-American women living in Chicago. *Qualitative Health Research*, 16(2), 221-237.
- Weiderholt, W. C., Cahn, D., Butters, N. M., Salmon, D. P., Kritz-Siverstein, D., & Barrett-Connor, E. (1993). Effects of age, gender and education on selected neuropsychological tests in an elderly community cohort. *Journal of American Geriatrics Society*, 41(6), 639-647.
- Weiss, C. O., Boyd, C. M., Yu, Q., Wolff, J., & Leff, B. (2007). Patterns of prevalent major chronic disease among older adults in the United States. *Journal of the American Medical Association*, 298(10), 1160-1162.
- Whitlatch, C. J., Feinberg, L. F., & Sebesta, D. S. (1997). Depression and health in family caregivers. *Journal of Aging and Health*, 9(2), 222-243.
- Whitlatch, C. J., Feinberg, L. F., & Stevens, E. J. (1999). Predictors of institutionalization for persons with Alzheimer's disease and the impact on family caregivers. *Journal of Mental Health and Aging*, 5(3), 275-288.
- Williams, D. R. (1999). Race, socioeconomic status, and health: The added effects of racism and discrimination. *Annals of the New York Academy of the Sciences*, 896, 173-188.
- Williams, D. R. (2003). The health of men: Structured inequalities and opportunities. *American Journal of Public Health*, 93(5), 724-731.
- Williams, D. R., & Collins, C. (2001). Racial residential segregation: A fundamental cause of racial disparities in health. *Public Health Reports*, 116(5), 404-416.
- Williams, D. R., & Mohammed, S. A. (2009). Discrimination and racial disparities in Health: Evidence and needed research. *Journal of Behavioral Medicine*, 32, 20-47.
- Williams, D. R., Neighbors, H. W., & Jackson, J. S. (2008). Racial/Ethnic discrimination and health: Findings from community studies. *American Journal of Public Health*, 93, S29-S37.

- Williams, D. R. & Wilson, C. (2001). Race, ethnicity, and aging. In R. H. Binstock & L. K. George (Eds.) *Handbook of Aging and Social Sciences, Fifth Edition*. Academic Press, 160-178.
- Williams, D. R., Yu, Y., Jackson, J. S., & Anderson, N. B. (1997). Racial differences in physical and mental health: Socio-economic status, stress and discrimination. *Journal of Health Psychology, 2*, 335-351.
- Wilson, R. S., Krueger, K. R., Gu, L., Bienias, J. L., Mendes de Leon, C. F., & Evans, D. A. (2005). Neuroticism, extraversion and mortality in a defined population of older persons. *Psychosomatic Medicine, 67*, 841-845.
- Wink, P., Dillon, M., & Prettyman, A. (2007). Religion as moderator of the sense of control–health connection: Gender differences. *Journal of Religion, Spirituality & Aging, 19*, 21-41.
- World Health Organization, Preamble to the Constitution. (1946). As adopted by the International Health Conference, New York. *Official Records of the World Health Organization, 2*, 100.
- Wrosch, C., Bauer, I., & Scheier, M. E. (2005). Regret and quality of life across the adult life span: The influence of disengagement and available future goals. *Psychology and Aging, 20*, 657-670.
- Wykle, M., Whitehouse, P., & Morris, D. (Eds.) *Successful aging through the life span: Intergenerational issues in health*. New York: Springer.
- Yahnke, R. E. (2004). Women's body image, *The Gerontologist, 44*(3), 444-448.
- Yahnke, R. E. (2006). Older women's sexuality and body image. *The Gerontologist, 46*(1), 151-156.
- Zimmerman, M. A. (1995). Psychological empowerment: Issues and illustrations. *American Journal of Community Psychology, 23*(5), 581-599.
- Zucker, A. N., Ostrove, J. M., & Stewart, A. J. (2002). College-educated women's personality development in adulthood: Perceptions and age differences. *Psychology and Aging, 17*, 236-244.