

Psychological Well-being among Three Age Groups of
Older Americans Living in the Community

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ABSTRACT

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This research explores factors associated with psychological well-being (happiness, depressive symptomatology, and anxiety) among three groups of older adults living in the community: the soon-to-be-old (ages 50-64), the young-old (ages 65-74), and the old-old (ages 75 and over). The study is framed within the conceptual framework of the stress and coping model and informed by socio-emotional selectivity theory, the life course perspective, and critical theory. Using a national U.S. sample of adults over age 50 (the Aging, Status, and Sense of Control data), this construct allows for analysis of respondents' subjective factors for promoting or maintaining their psychological well-being.

Data analysis explores age group differences on psychological well-being outcomes among the three age groups. Major findings demonstrate that average levels of psychological well-being vary only slightly by age cohort with age group having no significant unique effect on explaining any dimension of happiness, depressive symptomatology, or anxiety. Factors associated with these outcomes vary among age groups with only two common predictors for two outcomes. The most powerful predictors for all age groups are the 1995 psychological well-being covariates; other predictors are distinct by age group. The results show that factors associated with psychological well-being fall in multiple areas suggesting a need for multi-component interventions unique to each age group to maintain and promote psychological well-being among older adults. Findings endorse the positive aspect of aging demonstrating that individuals can maintain and promote positive psychological well-being in later life. Insights into

policy, program, and social work practice to promote well-being among the rapidly growing and aging segment of the American population are discussed. Study limitations and implications for future research are presented.

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1. INTRODUCTION

Statement of the Problems

This study explores determinants of psychological well-being among older adults living in the community. Compared to youth, old age embraces declines and losses in multiple domains such as physical, cognitive, and social functioning (Fung, 2005; Masoro, 2001; Moos, Brennan, Schutte, & Moos, 2006; Qualls & Abeles, 2000). As individuals age they encounter increasing morbidity (Freund & Ebner, 2005), the increased chance of dependency, and the imminence of death (Smith & Baltes, 1998). With these age-related setbacks, maintaining or enhancing psychological well-being poses a substantial challenge to many older adults, especially those who have few structural supports (Baltes, 1997). In addition, the advancement of age increases the chances to experience stressful life events caused by external forces including economic recession and personal disaster. In coping with such events, age-related decline and loss moderate efforts by older adults to maintain or restore their psychological well-being. These facts about aging reinforce older adults' vulnerability in maintaining a sense of psychological well-being. They confirm gerontologists' responsibility to study factors associated with psychological well-being in old age and to identify policy and program implications for maintaining and improving the psychological well-being of our rapidly aging population.

Discussing psychological well-being is a challenge as no universal understanding of psychological well-being is available among older adults as well as among gerontological researchers. What contributes to a sense of well-being for one elder may have just the opposite effect on another. For instance, older adults who place high value on remaining active in old age are likely to find psychological well-being associated with retaining activities similar to those they enjoyed in middle age (Hooyman & Kiyak, 2011). On the other hand, older adults who seek

separation from active engagement in middle age may rather maintain psychological well-being in old age by engaging in passive roles and focusing on inner lives. These contrasts illustrate the importance when studying their psychological well-being of incorporating older adults' subjectivity, a factor frequently neglected in gerontological research. Instead, well-being studies are principally framed and defined by researchers using major scholarly paradigms including successful aging (Rowe & Kahn, 1998), healthy aging (e.g., Schmidt, 1994), and active aging (e.g., World Health Organization, 2002).

The study presented here aims to enhance the literature surrounding older adults' psychological well-being by incorporating older adults' subjectivity in measuring their sense of well-being. This is accomplished by employing the subjective paradigm of psychological well-being that also includes subjective factors in a variety of older adults' perceptions of psychological well-being. For instance, Rowe and Kahn (1998) define "successful aging," one of the key gerontology paradigms, as a combination of physical and functional health, high cognitive functioning, and active involvement with society (Rowe & Kahn, 1998). In these researchers' framework, older adults must keep good health and active engagements in society to maintain quality of later life. Healthy aging, another widely-accepted framework, is defined as "the process of optimizing opportunities for health, participation, and security in order to enhance quality of life as people age" (World Health Organization, 2002, p.2). In these frameworks, what composes quality of life in old age is determined by the scholars. The current study focuses on happiness, depressive symptomatology, and anxiety as the components of psychological well-being and allows study participants to signify what factors define each of these three constructs.

Within the described context of age-related adversities, the challenges to maintain or

enhance psychological well-being in old age are met within any given individual's adaptive capacity. Older adults arduously cope with stress factors related to aging by effectively using available resources. Such resources include formal support, such as in-home service use and community-based service use (Burnette & Mui, 1997), and informal support, such as contacts with adult children and friends (Jopp & Rott, 2006; Pinqart & Sörensen, 2000). This study adopted the basic premise that although older adults encounter age-related declines and losses, they can maintain and even enhance their psychological well-being by controlling stressful declines and losses through effective use of coping resources. What encompasses stress factors and coping resources is diverse among older adults. For instance, a stress factor for some older adults does not necessarily pose stress to other older adults. Similarly, a coping resource does not have universal effect on all older adults. These realities confirm the significance of examining older adults' subjective aging experiences and form the basis for this study's attempt to understand older adults' subjective challenges to psychological well-being. For this purpose, the study uses Lazarus and Folkman's stress and coping model (1984) as a conceptual framework.

The subjective experiences of aging may vary among older adult age groups. To test this, the study investigates psychological well-being of three groups of older adults all living in the community: *the soon-to-be-old group* (born between 1937 and 1951, aged 50-64 in 2001); *the young-old group* (born between 1927 and 1936, aged 65-74 in 2001), and *the old-old group* (born in 1926 and before, aged 75 and over in 2001). The primary goals of this study are to analyze the subjective conceptions of the psychological well-being of the above three groups and to explore factors associated with each group's psychological well-being. This study contributes to understanding how older adults of different age groups subjectively deal with maintaining their psychological well-being in later life.

Demographically, it is well known that an enormous growth in the aging population is expected in the face of the entry of the Baby Boom generation to old age. Despite this rapid expansion of the older adult population, policy, scholarly, and social work responses have been insufficient in addressing the projected financial, health, and social service demands of this population demographic. Further efforts are needed at the public, academic, and service levels to better understand what individual and societal factors contribute to the psychological well-being of older adults. While much gerontological research focuses on the current older population, this research includes the soon-to-be old among the study groups. Such comprehensive understanding of the Baby Boomers can better inform policy and program decisions and social work interventions aimed at maximizing the psychological well-being of the growing elderly population. The following section discusses the rationale for studying psychological well-being among older adults.

Study Rationale

The rationale for this study of older adults' psychological well-being is discussed from five perspectives: the U.S. demography, variance in quality of life among older age groups, the impact of the Baby Boomers, policy perspectives for older adults, and gerontological scholarly paradigms.

Demographic Shifts in the U.S. Aging Society and a Variety among Older Age Groups

An aging society is a phenomenon observed worldwide. The U.S. national statistics estimates that people aged 65 and older numbered 39.6 million in 2009 representing 12.9% of the total population (Administration on Aging, 2010). Older adults increased thirteen times from 3.1 million in 1990, and the percentage in the total population tripled from 4.1% in the same year. The additional statistics indicate that the majority of these growing older adults live in the

community, showing only 4.1% of them or 1.6 million living in institutions, such as nursing homes in 2009. These statistical facts suggest that researchers, policy makers, and gerontological social workers need to gain knowledge to respond to the needs of this expanding aging population in the community.

When older adults are discussed, scholars, economists, practitioners, and policy makers need to keep in mind that they are not a homogeneous population that ranges in age from 65 to over 100. Statistical comparisons between 1990 and 2009 present uneven increases of the old age groups. The largest group was those age 65-75. They increased 9.5 times from 1990 reaching 20.8 million in 2009 (Administration on Aging, 2010). Even more drastic increases were found for the older age groups with individuals aged 75 to 84 increasing 17 times during the same period to 13.1 million in 2009 and individuals aged 85 and over increasing 46 times in size from 1990 to 2009 to 5.6 million elderly.

Variance in Quality of Life among Older Age Groups

Statistics represent only one rationale for the importance of studying older Americans. These age groups also vary in the quality of their life. One only needs to look at the major indicators of well-being among older adults including living arrangement, activities of daily living (ADL), and leisure activities, to observe and explain such a quality of life variety in old age (Federal Interagency Forum on Aging-Related Statistics, 2010). Looking first at living arrangement, the majority of older adults (95.9%) reside in the community with only 4.1% living in institutions (Administration on Aging, 2010). Of those community residents, 30.1% lived alone in 2009 with this percentage changing with the advancement of age to 21.9% of people age 65-74 living alone, 32.3% of those aged 75 to 84, and 46.0% of those age 85 years and over (Administration on Aging, 2010). Living alone can affect older adults' psychological well-being

by triggering loneliness and a sense of insecurity in life. The highest proportion of living alone among the oldest group indicates the importance to pay more attention to psychological well-being of this age group.

Health status declines with advancing age. The 2007 data on non-institutionalized individuals' ADL status, one of the key health indicators, finds that people 85 and over showed the highest percentage of limitations in all of ADLs (bathing/showering, dressing, eating, and getting in and out of bed and chairs, walking, and using toilet) (Administration of Aging, 2010). By contrast, persons age 65-74 reported the lowest proportions in all such activities. An example indicates that walking is described more difficult than any other ADL to older adults of any age group. Sixteen percent of people age 65-74 reported limitations in walking in 2007. This rate leaped up to 28% for those age 75-84 and 45% for age 85 and over. So if policy and programs are to be targeted to specific age groups, then these statistics would suggest that older adults who are living alone and are members of the oldest old age group are at greatest risk for needing services. In terms of subjective perceptions of well-being, these statistics would indicate that they may also be at greatest risk for a decline in their psychological well-being.

Older adults are also diverse in social dimensions, an important measure of quality of life. When time spent for leisure activities is compared, not surprisingly older individuals spend more time on leisure than younger counterparts. On an average day, persons age 65-74 and those age 75-84 spend 29.7% (7.1 hours) and 31.7% (7.6 hours) of their day on leisure activities respectively (Federal Interagency Forum on Aging-Related Statistics, 2010). By contrast, people age 55-64 spend 23.6% of day (5.7 hours) for leisure activities. When the types of leisure activities are examined, time used for socializing and communicating decreases with age: from 12.5% of day (0.7 hours) for those aged 55 to 64 to 8.3% (0.6 hours) for those age 75 and over.

On the other hand, time spent for relaxing (5.0% for those age 55-64 to 9.7% for those age 75 and over) and reading (9.3% for those age 55-64 to 13.7% for those age 75 and over) increases with advanced age. These statistical figures indicate that people are more likely to seek a sense of psychological well-being from their inner life as they age. They also demonstrate the variance in activities and behaviors that contribute to the older adult's subjective sense of well-being.

All these quality of life indicators demonstrate the variance among older adult age groups. Therefore, they demonstrate how much variance may also be present in how older adults at different ages subjectively perceive their well-being. Accordingly, this study examines how the subjective view of older adults toward well-being indicators varies among the three age groups.

The Baby Boomer Impact

In discussing variation in old age, scholars and planners need to pay heed to the 78.2 million Baby Boomers who reach the age of 65 starting 2011. The entry of the Baby Boomers to traditional "retirement age" will bring about substantial demographic shifts while simultaneously impacting the economic and social profile of the 65 and over population. For example, it is likely that in the future many of these older adults will be better off economically (Arendt, 2005) than the current elderly due to increased educational attainment for both men and women and more involvement of women in the labor force (Cooney & Dunne, 2001). These realities may also impact the manner in which Baby Boomers subjectively experience their well-being as they age. Based on such changes, there is the potential that current social structures cannot keep pace with the shifts in population and individual lives resulting in a structural lag (Hooyman & Kiyak, 2011) as well as a cultural lag, which may cause inadequate or inappropriate societal responses to the aging Baby Boomers' needs. With the entry of the Baby Boomers into retirement life, presumably, the Social Security system will pay out more benefits than it collects tax revenues

starting 2017 (Wheeler & Giunta, 2009). In order to contain federal spending on the entitlement programs as the Baby Boomers enter eligibility, policy makers proposed to cut the entitlement programs such as the Social Security and Medicare as part of the federal deficit reduction package. Reduced benefits in those programs will affect psychological well-being among aging Baby Boomers. In addition, the Baby Boomers come to the aging process with a very different set of expectations of what they expect from the public sector than the expectations that their parents, the “Greatest Generation” have. More research is needed to gain knowledge on what determines psychological well-being of aging Baby Boomers.

The future social policies and social work programs that will best foster the well-being of the growing aging population and respond to their service needs will be those that take into account variations in life experience and perceptions of well-being between as well as within different older adult age groups. To develop such policies and programs, research is essential to provide knowledge on how different older adult age groups perceive their own well-being subjectively. This discussion confirms the importance of this research examining the psychological well-being of three older adult age groups: the soon-to-be-old group (age 50-64), the young-old group (age 65-74), and the old-old group (aged 75 and over).

A Paradigm Shift from Problem-oriented Policy for the Older Population

In the 1930s and 1960s, liberal advocates successfully depicted older adults as the deserving poor and helped age-based entitlements develop as a major remedy for their income and health care needs (Moody, 2001). Kerschner and Pegues (1998) argued that some policy makers believe that since the problems of older adults have been adequately responded to by existing public benefits, new quality of life interventions are irrelevant. Walker (2002) also criticizes contemporary policy responses to the aging population, stating that aging policy has

been piecemeal and compartmentalized into traditional policy domains. Walker argues for an alternative aging policy approach that attempts to interconnect and combine various life domains. In the current political arena, reforming entitlement programs for older adults to go forward to a safety net verses universal benefit is among the top agenda. As such a political debate focuses on health and financial aspects of later life only, discussing and advocating for quality of older adults' entire lives fall into the responsibilities of gerontology and geriatric social workers.

Kerschner and Pegues (1998) point to a U.S. policy perspective dominated by a problem-oriented policy paradigm, one that advocates and supports benefits for only frail older individuals. Non-frail older adults, as well as frail older adults, all encounter challenges as they age. These include normal aging process issues, such as years of caregiving for a spouse, loneliness as a result of multiple losses, and a concern with outliving their financial resources. Each of these potentially impacts the psychological well-being of older adults, regardless of their degree of physical frailty and/or functional capacity. The "frail old-age" or "problem" perspective is still alive in the current policy debates over Social Security and Medicare benefit cuts viewing older adults as "economic burden." Considering a more robust profile of the recent older generations (healthier and financially better off) than the early older cohorts, it is vital to view older adults as "social capital or resources" not solely the beneficiaries of social programs. For instance, networking older adults for mutual support and involving them in productive activities will contribute to solving many issues older adults encounter. However, in order to ensure that this paradigm shift promotes older adults' well-being, further understanding on how older adults perceive their well-being subjectively is critical as suggested by this study.

Likewise, the problem-oriented policy perspective fails to address the heterogeneity of needs and issues among America's older adults. In policies for older adults, the older population

is defined by chronological aging; nevertheless, this population is diverse in terms of biological, psychological, and social aging (Hooyman & Kiyak, 2011). As shown in the previous section, with its wide age range, they are heterogeneous groups of people showing unique attributes between as well as within each age group. The entry of the Baby Boomers into old age will further the diversity in this population as described.

These discussions remind scholars and policy makers of the necessity for a holistic gerontological viewpoint, as opposed to the narrower perspective of problems only. Such a view can guide a series of policy and program initiatives by considering the diverse older population and their subjective life experiences and needs holistically. In this approach, many aspects of an older person's subjective life, not just problems, can be taken into account in planning. The entry of the Baby Boomers into old age will challenge policy and program domains to develop an approach beyond problem orientation to the goodness of fit between older persons' subjective needs and the public's and household's ability to meet them (Ball, Whittington, Perkins, Patterson, Hollingsworth, King et al., 2000). Public policies and programs based on a holistic approach, not a problem-oriented approach, can be expected to enhance well-being among the older population, as this holistic approach attempts to respond to elders' diverse and subjective needs in multiple life domains that will need to their well-being. In summing up, policies and programs to enhance the well-being of the older population need to take into account the diverse, subjective perspectives of the older population. Obviously, the current political debate over reducing entitlement benefits affects psychological well-being of the older population. How older adults live well with reduced benefits need to be a top concern in the political debate. A paradigm shift from problem-and-burden-oriented policies and programs to those pulling out the potentials from older adults is suggested in a way that promotes well-being of older adults in the

long run.

Scholarly Paradigms on Aging

As stated previously, there is a wide variety in how older adults view their own psychological well-being. In gerontology, multiple scholarly paradigms have been developed to understand the nature of aging and well-being in later years. These include successful aging (Rowe & Kahn, 1998), the model of selective optimization with compensation (a psychological model of successful aging) (Baltes & Baltes, 1990), healthy aging (Schmidt, 1994), active aging (World Health Organization, 2002), productive aging (Morrow-Howell, Hinterlong, & Sherraden, 2001), and positive aging (Strawbridge, Wallhagen, & Cohen, 2002). These paradigms are defined by gerontological scholars and do not incorporate older adults' subjective views of what constitute their well-being.

Since the mid-1980s, several forward focused paradigms have proposed that aging individuals can promote their own health (Hartman-Stein & Potkanowicz, 2003; Haveman-Nies, Groot, & Staveren, 2003; Keller & Kalache, 1997; Lang, Moore, Harris, & Anderson, 2005) while avoiding decrements and losses by taking responsibility for their own health (Moody, 2001) and modifying their health behaviors (Holstein & Minkler, 2003). Besides health, keeping a focus on active engagement, these paradigms suggest that, as they age, people can maintain interest and involvement in productive behaviors (Rowe & Kahn, 1998) and contribute to society socially and economically (Kerschner & Pegues, 1998) as workers, volunteers, caregivers, and active citizens (Hinterlong, Morrow-Howell, & Sherraden, 2001). Rather than looking at aging in a problem perspective, these paradigms consider it in an active, growth perspective.

Despite the robust contributions of the above positive paradigms to aging studies, two major shortfalls have been found: an exclusion of frail older adults and a lack of consideration of

the subjectivity of older adults in their perceptions of aging. The assumptions underlying these paradigms for the elderly include good health, independence, significant assets for society (Hudson, 1997; Kalache & Keller, 1999, Kerschner & Pegues, 1998; Rowe & Kahn, 1998), and active participation in society (Kalache & Keller; Rowe & Kahn). This indicates that individuals aging with disability, illness, and/or functional limitations are excluded (Gergen & Gergen, 2002; Holstein & Minkler, 2003; Minkler & Fadem, 2002) and/or stigmatized and marginalized by these paradigms (Minkler & Fadem).

The well-being of people with illness, disability, and other hardships cannot be explained by these paradigms representing, in the view of this researcher, a major limitation for these aging paradigms. In the U.S. in 2005, 37% of older adults reported a severe disability, such as difficulty in hearing, vision, cognition, ambulation, self-care, or independent living; this rate of a severe disability reached 56% among persons over 80 (Administration on Aging, 2010). In reviewing these scholarly paradigms, Katz (2001-2002) claims that they cannot be applied to older adults with illness, poverty, and marginalization. In addition, these paradigms do not explain their hardships and struggles to accept what they cannot change (Holstein & Minkler, 2003), i.e. a subjective experience.

The second major shortfall across these aging paradigms is insufficient attention to older adults' subjectivity about factors in life related to their aging and well-being (Tate, Lah, & Cuddy, 2003). All these paradigms are likely to have a normative scholarly bias in their selected criteria of the paradigm definition (Gergen & Gergen, 2002). For instance, some older adults have preference for more inner-world to outer-world engagement (Hooyman & Kiyak, 2011) and choose not to engage in social activity, feeling that they have already made enough contributions to work, society, and others in their earlier years. When well-being is discussed, it is important to

consider whose life it relates to, to avoid imposing universal values, and to acknowledge the heterogeneity of older adults. Older adults' subjective perceptions should reflect their own adaptation to age-related transitions and issues and choices for later life. Aging paradigms need to incorporate elements of what is subjectively valuable and qualitative to individual older adults not only incorporate what is normatively deemed by scholars to be important.

In studying older adults' well-being, although objective research data are important, scholars also emphasize that an incorporation of the clients' subjective point of view is of equal significance (Ball et al., 2000; Baltes & Baltes, 1990; Lawton, 1999; Steverink, Lindenberg & Ormel, 1998; Witkin & Altschuld, 1995). Evidence indicates that the vast majority of people describe themselves as satisfied with their lives despite objectively negative indicators (Lawton, 1983). For instance, Vaillant and Mukamal's (2001) review of the findings of the *MacArthur Study of Aging* and the *Berlin Aging Study* confirms that older adults frequently do not regard themselves as sick despite chronic illness diagnosed by physicians and their use of multiple medicines. Investigating reasons behind these perceptions may help researchers better understand older adults and respond more effectively to their quality-of-life needs (Fry, 2000; Strawbridge et al., 2002; Wilhelmson, Andersson, Waern, & Allebeck, 2005).

The above discussion suggests the significance of a focus on the subjectivity of study objects, in this case, older adults. Nevertheless, subjectivity contains an inherent problem of integrating the heterogeneity of subjective perceptions among individuals. What well-being means subjectively may differ substantially among older adults and circumstances (Inui, 2003). While it is important to respond to such heterogeneity in aging policies and programs, accommodating every single subjective perspective is impossible. Thus, key to a more effective response will be to see if among the older population there are core values (Gabriel & Bowling,

2004) and a common perception (Tate et al., 2003) of factors and experiences (Crosnoe & Elder Jr., 2002) surrounding psychological well-being. In this process, sub-themes that reflect older individuals' self-described characteristics and circumstances can also be taken into account (Gabriel & Bowling). It was expected that in this study, the construct of psychological well-being, would integrate the diversity of older adults' subjective views of well-being into common, core perceptions rather than maintaining them as a collection of individual viewpoints.

Summary

The above discussion or study rationale provides an overview explaining why further studies are necessary to better understand subjective factors that can be used to promote psychological well-being among older adults. It is presented in the context of renewed debate at the Federal Level on what levels of support will be provided moving forward by current older adult entitlement programs. If U.S. policies and programs aim to serve the life and well-being of the older population, older peoples' voices need to be heard and their perspectives acknowledged. This observation has led to this research on psychological well-being among the older adult population utilizing a construct that collects and reflects on older people's subjective perspectives on aging and well-being. Living in a rapidly-aging society, it is important for gerontological researchers to study psychological well-being among older adults, a demographic who will soon compose a much larger proportion of the U.S. population. It is equally important that scholars, planners, and providers advocate for promotion of this population's psychological well-being. Based on the study rationale, a literature review on psychological well-being among older adults and its associated factors are presented in the next chapter.

2. REVIEW OF RELATED LITERATURE

This section presents a review of the literature on psychological well-being among older adults living in the community. Special focus is placed on the indicators of happiness, depressive symptomatology, and anxiety as its explanatory dimensions of well-being. Factors associated with each dimension of psychological well-being are also reviewed. In this section, the term *older adult* applies to individuals over age 65, unless otherwise noted. The studies reviewed in the following were conducted in the United States (US); otherwise the country of study is specified.

Psychological Well-being among Older Adults Living in the Community

Definition of Psychological Well-being

In gerontology literature, the terms of psychological well-being and subjective well-being have been used interchangeably to represent identical concepts (Diener, 1984; George, 1981). In more recent literature, depending on the investigators' research framework, well-being terms present very similar or even identical constructs to successful aging (e.g., Iwamasa & Iwasaki, 2011; Litwin, 2005; Rowe & Kahn, 1998), quality of life (e.g., Lawton, 1999; Wiggins, Netuveli, Hyde, Higgs, & Blane, 2008), health-related quality of life (e.g., Deck, 2002; Goulia, Voulgari, Tsifetaki, Drosos, & Hyphantis, 2010), and life satisfaction (e.g., Gaymu & Springer, 2010; Sparks, 2004).

This study defines psychological well-being as people's subjective experiences of life as the result of their objective life conditions (George, 1996). Acknowledging losses as well as gains is a critical part of the objective conditions inherent in the aging process (Baltes & Carstensen, 1996; Haveman-Nies et al., 2003). As people age, gains decrease and losses increase (Freund & Ebner, 2005). Nevertheless, older adults can maintain their sense of well-being by psychologically adjusting to and controlling the problems and conditions inherent in aging (Fung,

2005). Evidence of the importance of subjective interpretation of life's conditions is available in the gerontology literature. In fact, Lawton (1983) found that the vast majority of people subjectively indicate positive feelings despite what others would define as objectively negative conditions. These findings may be influenced by psychological well-being defined as "positive evaluation of one's life associated with good feelings" (Pinquart & Sörensen, 2000, p. 187). It is clear, therefore, that individual perception and interpretation are important elements in older adults' subjective view of their psychological well-being, the focus of the research reported here.

Dimensions of Psychological Well-being among Older Adults

A review of the literature confirms a widespread consensus among investigators that psychological well-being is a multifaceted construct consisting of separate dimensions, each of which is conceptually related but presents unique information (Diener, Scollon, & Lucas, 2003). Therefore, researchers who attempt to grasp people's psychological well-being should measure multiple dimensions of people's evaluation of their own life and investigate them independently (Diener & Biswas-Diener, 2002). This study took this approach by examining psychological well-being in older adults from three perspectives previously explored in elderly well-being literature: happiness, depressive symptomatology, and anxiety.

This literature review reveals a general recognition that psychological well-being consists of cognitive evaluations of life in general (e.g., life satisfaction), positive affect, and negative affect (or a lack thereof) (Hilleras, Agüero-Torres, & Winblad, 2001; Khalil & Okun, 2002; Pavot & Diener, 2003; Westerhof & Barrett, 2005). In addition, Pinquart and Sörensen's (2001) meta-analysis of 300 empirical studies on self-concept and subjective well-being in later life reports that this construct has frequently been studied by assessing life satisfaction, happiness, and self-esteem. Chen's (2001) literature review identifies life satisfaction and happiness as the

components commonly studied in subjective well-being research, but substitutes the measure of morale as more common than self-esteem.

Kozma, Stones, and McNeil (1991) contend that where life satisfaction indicates a cognitive evaluation of one's life situation, happiness implies an emotional dimension of people's judgment. George (1981) insists that happiness, as well as positive and negative affect measures, mirrors more short-term reports of subjective well-being where life satisfaction and morale associate with long-term judgments of well-being. In long-term reflections, an evaluation of positive events over the life course is likely to offset an evaluation of negative events and vice versa. As a result, a perception of well-being in old age may be reported as biased. A goal of this study is to capture psychological well-being among older adults at a point in time, not life-long well-being. Thus, a variable of **happiness** was considered to be appropriate to serve this goal and as a valid construct of subjectivity.

Positive and negative dimensions influence an older adult's life course. Bradburn (1969) notes that the concept of psychological well-being can best be assessed as a function of two independent dimensions – positive and negative affect. This concept derives from data in Bradburn and Caplovitz's 1965 study (as cited in Bradburn, 1969) of a probability sample of adults in four Illinois communities, although the details of this study were not described. Lawton (1994) introduces a "dual-channel" conception of well-being, which indicates that positive and negative dimensions of an individual's well-being are independent, as they are influenced by different variables. These findings are empirically endorsed in Smits, Deeg, and Bosscher's (1995) study of the associations of different facets of personal control with well-being among older adults. These authors found positive and negative affects to be associated with different control measures. Negative affect was associated with sense of coherence and neuroticism while

positive affect was predicted by mastery with global well-being and social inadequacy (e.g., a feeling that a respondent cannot easily relate to others). All these studies point to the importance of assessing both positive and negative dimensions in psychological well-being research. Thus, in addition to happiness, this review focuses on **depressive symptomatology** as a construct connoting the aggregate of depressive symptoms including clinical depression.

A review of gerontology literature reveals that multiple studies explore psychological well-being in older adults by examining both depression and anxiety as indispensable dimensions. Beekman, Beurs, van Balkom, Deeg, van Dych, and van Tilburg (2000) and Kvaal, McDougall, Brayne, Matthews, and Dewey (2008) investigate the co-occurrence of anxiety and depression in old age and the risk factors of these conditions. In their research, co-morbidity of these factors was highly prevalent among the elderly samples, ranging from 8.4% to 47.5%. Despite such high co-occurrence, structural differences in these two conditions have been found in explaining psychological well-being (Meeks, Woodruff-Borden, and Depp, 2003; Shapiro, Rovers, & Beck, 1999). Based on these research findings, **anxiety** as a measure of older adult's well-being is also considered in this study.

In sum, as inspired by these references, this study focuses on happiness, depressive symptomatology, and anxiety as predictors of psychological well-being in older adults. These factors have emerged in aging research as virtually uncorrelated, independent explanatory dimensions of psychological well-being in this population. In the following section, literature specific to each of these three dimensions of well-being is reviewed. Each psychological well-being measure is explored based on three categories of factors associated with it as applicable: socio-demographic factors, stress factors, and coping factors.

Happiness

Factors Associated with Happiness among Older Adults Living in the Community

A large array of studies has been conducted on psychological well-being among older adults living in the community. Nevertheless, those that directly measure the construct of *happiness* are limited. The meta analysis of subjective well-being in later-life by Pinqart and Sörensen (2000) reveals that in gerontology research, happiness has been measured most often by either a single-item measure of happiness or the *Affect Balance Scale (ABS)*, a ten-item rating scale of five statements of positive feelings (e.g., “Pleased about having accomplished something?”) and five statements of negative feelings (e.g., “So restless that you couldn’t sit long in a chair?”) (Bradburn, 1969, p. 56). The primary focus of this literature review is research that includes happiness as a dependent variable. Focus was also placed on gerontology studies that measure other variables related to the positive side of psychological well-being in old age, one of the outcome variables for this study. As reported in the following sections, aging studies examine multiple variables that may be associated with happiness as an outcome. In this section, those predictor variables for happiness and related concepts are reviewed and grouped as socio-demographic factors and coping resources.

Socio-demographic factors.

Even though it is generally perceived that psychological resilience is likely to diminish in very old age, with negative changes in multiple domains, a review of the literature on happiness reveals inconsistent age effect on the construct. For instance, Jopp and Rott (2006) conducted a study of German centenarians to explore the effects of resources (e.g., socio-demographic characters and health), self-referent beliefs (e.g., self-efficacy), and attitudes toward life (e.g., optimistic outlook) on their happiness. In their research, happiness was assessed by the questions

of whether the individual is mostly happy, feels as happy as at younger ages, and laughs often. This centenarian sample was compared to the middle-aged (ages 43 to 46) and older adults (ages 61 to 65) groups. These authors found that the centenarians felt just as happy as in younger years, as did the participants in the middle and older age groups. Thus, no evidence was provided to support the recognition that centenarians perceive less subjective well-being compared with younger cohorts. By contrast, Yang (2008) found significant strong effect of age on happiness revealing that happiness increases over the life course when this researcher studied about non-institutionalized 29,000 adults aged 18 and over. In Yang's study, happiness was measured by a single-item question asking if the respondent is very happy, pretty happy, or not too happy. In other literature investigating psychological well-being with variables other than happiness, inconsistent outcomes of the effect of age have also been found. Burnette and Mui (1996) conducted a study of psychological well-being among three age groups of older women in their late 60s, 70s, and 80s who lived alone. These researchers assessed well-being by a composite score of self-reported items, such as being satisfied with present life. They noted that the age cohort variable had no main effect on the women's psychological well-being. However, the correlates of psychological well-being were found to differ among successive age cohorts. The authors' evidence indicates that the well-being of women in their 60s was influenced more by health and financial problems, while to women in their 80s, well-being was mostly influenced by health-related factors. In contrast, in the cross-sectional and longitudinal study of older adults in England by Bennett (1997), age significantly influenced psychological well-being (operationally defined as personal disturbance, morale, social functioning, and health) with older subjects reporting lower levels of well-being. Considering that few studies have examined the relationship between happiness and age, the study reported here will add to that literature.

Pinquart and Sörensen (2001) conducted a meta-analysis of 300 empirical studies of gender differences in psychological well-being (life satisfaction and happiness) and self-concept among older adults. In this research analysis, larger gender differences on happiness in favor of men were evidenced in older age groups than in younger age groups. The findings by these researchers indicate that while older women reported significantly lower psychological well-being as well as less positive self-concept compared to older men, gender accounted for only less than 1% of variance in both. This evidence is consistent with the Smith and Baltes' (1998) findings that older women, who presented a less desirable profile (e.g., currently not-married, more illness, and lower functional ability) than older men, also reported significantly lower levels of subjective well-being, although the gender differences were small. These researchers concluded that older women's physical frailty and less robust life conditions compared to older men have consequences for older women's lower psychological functioning.

Pinquart and Sörensen (2001) report that when gender differences in the covariates of widowhood, health, and socioeconomic status were statistically controlled for, gender effects on psychological well-being diminished. This evidence suggests that gender differences are generally a small factor in psychological well-being but that older women's disadvantages in socioeconomic status, health, and widowhood, compared to older men's, account for women's lower psychological well-being. Interestingly, these findings are supported by Ruffing-Rahal, Barin, and Combs' (1998) correlation study of the relationships between gender orientations (femininity, masculinity, and androgyny) of older women living in the community and their health status and qualitative well-being. Their research concluded that respondents with a feminine gender orientation showed the greatest number of significant positive correlations with health and qualitative well-being variables, including life satisfaction and happiness.

Despite these findings, other existing literature reports inconsistent results in gender effects on well-being. For instance, in contrast to the findings by Pinquart and Sörensen (2001), Jokisaari's (2003) study of the association of regret with subjective well-being demonstrates that gender was not associated with life satisfaction. In the study of older adults in England by Bennett (1997), gender also did not appear as a significant predictor of psychological well-being. These inconsistent research findings emphasize the importance to examine gender effect in this study.

Another significant factor contributing to psychological well-being is older adults' socioeconomic status. In a meta-analysis of 286 empirical elderly sample studies, Pinquart and Sörensen (2000) examine the influences of socioeconomic status (income, education, and occupational status or social class), social network, and competence on subjective well-being (life satisfaction, self-esteem, and happiness). The authors report that older adults with higher socioeconomic status have greater well-being and that income correlates more strongly with well-being than education. However, a review of gerontological literature by George (1992) indicated that although the relationship between income and subjective well-being is positive and substantial in magnitude at a bivariate level, the relationship becomes less consistent at a multivariate level. Murrell, Salsman, and Meeks (2003), as part of their research of health symptoms (e.g., ailments and pains) and vitality among older adults, report that within their sample, a higher level of education increases the likelihood of being happy in later life. Regarding gender differences, Pinquart and Sörensen's (2000) research reveals that the effects of income (both on happiness and life satisfaction) and education (only on life satisfaction) are stronger for the psychological well-being of older men than older women. In fact, the sources of psychological well-being differ for older men and women. Back to gender, socioeconomic status

has more importance for men's psychological well-being than women's, and men can derive well-being more from their economic status and educational level than women.

The above review presents inconsistent research findings on the association of socio-demographic factors with older adults' happiness. The review also found that studies on such an association are limited. These findings combine to reinforce the importance of studying how socio-demographic factors relate to older adults' happiness.

Coping resources.

In gerontology literature, social network or social exchange are found to be a significant predictor of happiness (Jopp & Rott, 2006; Newsom, Rook, Nishishiba, Sorkin, & Mahan, 2005; Pinquart & Sörensen, 2000). In social network research, the quantity and/or quality of this predictor can be the objective of study. In Jopp and Rott's (2006) study of German centenarians, the social network quantity (i.e. the total number of adult children, the number of people who visited the respondent regularly and whom the respondent visited, and how often the respondent spent time with people not living with him or her) was a significant contributor to their participants' happiness.

The meta-analysis by Pinquart and Sörensen (2000) also examines the association of social network with psychological well-being. This analysis concludes that both quality and quantity of social contacts are associated more strongly to subjective well-being for older groups (mean age of 71 and older) than for younger participants (mean age of 70 and under). They also note that quality (e.g., getting emotional support or feeling close to someone) is more strongly associated with all measures of psychological well-being (life satisfaction, self-esteem, and happiness) than quantity (number of people or the frequency of contacts). Regarding contact partners, the analysis reveals that the quantity of contacts with friends was more strongly

associated with well-being (life satisfaction, self-esteem, and happiness) than were contacts with adult children. This finding may relate to the normative suggestion that for people in old age, frequent contacts with friends indicates emotionally positive feelings toward those friends, while high frequency of contact with family members may reflect obligations or familial stress. In contrast to this description, the authors also found that psychological well-being (life satisfaction) was more strongly related to the quality of contact with adult children than with friends. This finding suggests that family contacts remain important for older adults. Newsom et al. (2005) confirm the importance of interactions with both family and friends and happiness. These scholars examine positive (informational support, instrumental support, emotional support, and companionship) and negative social exchanges (unwanted advice or intrusion, failure to provide help, unsympathetic or insensitive behavior, and rejection or neglect) in relation to well-being (happy, joyful, pleased, enjoying, and satisfied) and depressive symptoms. They found that positive exchanges were related to positive well-being while negative exchanges were associated with less well-being and greater psychological depressive symptoms. In addition, the frequency of negative exchanges was more strongly related to well-being than the frequency of positive exchanges. With regard to gender differences, Pinquart and Sörensen's findings indicate that the influence of social network on subjective well-being (life satisfaction and happiness) was greater for older women than older men.

The literature review conducted here also identifies a positive association of volunteering with well-being in later life (Morrow-Howell, Hinterlong, Rozario, & Tang, 2003). In this context, volunteering can be considered a coping factor in the life space of older adults and as a predictor of their psychological well-being. In Pushkar, Reis, and Morros's (2002) research exploring well-being in American older volunteers' (age 55-83) happiness was measured by

the *Memorial University of Newfoundland Scale of Happiness (MUNSH)* as one of the well-being components. Their hierarchical multiple regression analysis employed to determine predictors of well-being found that old volunteers who had higher levels of education and health were more likely to report being happy than were those with less education and poor health. Greenfield and Marks (2004)'s study investigated whether formal volunteering impacts the psychological well-being of older adults (age 65-74) who are losing role-identity in major life domains. These researchers measured well-being by two six-item scales of positive affect (e.g., feeling extremely happy in the last 30 days) and negative affect (e.g., feeling hopeless in the last 30 days) as well as purposes in life. Their research results indicate that being a formal volunteer was a significant predictor of more positive affect while no association was found for formal volunteering with negative affect. These findings imply that positive affect and negative affect are independent constructs that are explained by different variables. These results suggest the significance to examine the effects of volunteering on both positive and negative dimensions of well-being in this study.

Older adults encounter age-related declines and losses in the multiple domains of life. This normal process of aging suggests that there may be a lower subjective sense of happiness among older adults than younger adults. Both Jopp and Rott (2006) and Pinquart and Sörensen (2000) refute this assumption in their findings that psychological well-being does not decrease with old age. Jopp and Rott (*Ibid*) additionally note that direct effects of cognition and health on happiness were absent in their sample. These findings indicate successful psychological adaptation into very late life. They demonstrate that older adults develop strategies to emotionally detach from or cope with deteriorations in the domains of cognition and/or physical health. In fact, the Jopp and Rott study reveals that psychological factors, that is self-efficacy and

positive attitudes toward life (“feels hopeful,” “every day has much to look forward to,” and “maintains hopeful attitude”) (*Ibid*, p. 272), had stronger impact on their centenarians’ happiness than did various resources (e.g., social network and extroversion). This clearly demonstrates that psychological factors remain resilient and are essential in maintaining happiness in very old age. Additionally, the positive effect of extroversion (“like action,” “enjoy talking,” and “life is exciting”) (*Ibid*, p. 272) and competence (“skills to perform a variety of activities such as activities of daily living”) (Pinquart & Sörensen, 2000, p. 198) were found to be associated with happiness among the older population. Lastly, a qualitative study by Brandthill, Duczeminski, Surak, Erdly, Bayer, and Holm (2001) of disabled older nuns reports that participation in religious and community activity, a spirit of acceptance, commitment to service, and core beliefs in spirituality contribute to religious women’s happiness. These studies all indicate that coping factors play an important role in older adults’ happiness.

Summary overview of predictors of happiness among older adults.

Overall, the literature shows that socio-demographic and coping factors are significantly associated with older adults’ happiness. These factors start with **socio-demographic status**, especially income and education. With regard to age, inconsistent effects are evidenced. However, research on age effects on happiness is limited. Regarding gender effects, research findings are inconsistent. Among **coping factors**, social network, in terms of both quantity and quality of contacts (the total number of adult children, the number of people who visited the respondent regularly and whom the respondent visited, how often the respondent spent time with people not living with him or her, the quantity of contacts with friends, and the quality of contact with adult children) is important. In addition, both positive and negative social exchanges with families and friends and their frequencies are found to be associated with happiness. There is

also abundant literature that evidences a positive relationship between volunteering as a coping activity and psychological well-being. Other coping factors such as extroversion, competence, and psychological factors, such as self-efficacy and positive attitude towards life, also explain variance in happiness among older adults. For religious women, participation in religious and community activity, a spirit of acceptance, commitment to service, and spirituality had significant effects on their psychological well-being. In sum, happiness among older adults living in the community is a multifaceted construct that can be determined by multiple variables. Nevertheless, as stated, research on elderly happiness has been limited. Thus, further studies that investigate happiness from multiple angles are suggested, and this research would contribute to this knowledge enhancement.

Depressive Symptomatology

Factors Associated with Depressive Symptomatology among Older Adults Living in the Community

Another important indicator of general well-being among older adults is the presence of depressive symptoms (Federal Interagency Forum on Aging-Related Statistics, 2010). A review of the literature assessing the negative dimension of late-life psychological well-being found a number of studies that examine geriatric depression. This may be a reflection of the fact that depression stands as the most prevalent form of psychopathology among the older generation (Hooyman & Kiyak, 2011; Mui, 1996b, 1996c; Oldehinkel, van den Berg, Bouhuys, & Ormel, 2003; Roberts, Kaplan, Shema, & Strawbridge, 1997). The most recent data estimates that in 2006, 17.9 % of older women had clinically-relevant depressive symptoms compared with 10.1 % of men when assessed by a short version of the *Center for Epidemiological Studies Depressive Scale (CES-D)* (four or more symptoms out of eight depressive symptoms define

clinically-relevant depressive symptoms) (Federal Interagency Forum on Aging-Related Statistics, 2010). Little fluctuation in these percentages has been observed between 1998 and 2006. When the prevalence of depressive symptoms is compared among old-age groups, in 2006, the oldest group (age 85 and over) showed a higher proportion of depressive symptoms (19%) than any other old group (14% among age 65-69, 13% among age 70-74, 16% among age 75-79, and 15% among age 80-84). These statistics indicate that age is an important factor to consider when studying depression among older adults.

In the gerontology literature, many other terms in addition to depression have been used to indicate the negative dimension of psychological well-being. These include depressive mood, psychological distress, and depressive symptoms. While these other terms are maintained in the following review when specific research findings are presented, this study uses *depressive symptomatology* as an inclusive concept connoting general negative well-being including clinical depression.

Study findings reveal that late-life depression can be caused by psychological factors (Orengo, Fullerton, & Tan, 2004) and social or biological factors (Orengo et al.; Steffens, Pieper, Bosworth, MacFall, Provenzale, & Payne, et al., 2005). The literature review reported here found various factors that explain depressive symptomatology among older adults. The review notes that the inclusive outcome of depressive symptomatology among older adult samples has been calculated by either standardized measures (including the *Affect Balance Scale*, the *Center for Epidemiological Studies Depressive Scale (CES-D)*, the *Positive and Negative Affect Schedule (PANAS)*, and the *Geriatric Depression Scale*) or by researchers' original composite scores of self-reported depressive symptoms. In this section, factors related to depressive symptomatology in older adult populations that are relevant to the study reported here are discussed. These

include socio-demographic, stress, and coping resources.

Socio-demographic factors.

The significant influences of socio-demographic factors on depressive symptomatology among the older adult generation are present in many studies of late-life depression (e.g., Burnette & Mui, 1994, 1997; Harris, Cook, Victor, Rink, Mann, Shah et al., 2003; Hillerås, Jorm, Herlitz, & Winblad, 1998; Mui, 1996b; Mui & Burnette, 1996; Roberts et al., 1997; Steffens et al., 2005; Yang, 2007). Nevertheless, Shibusawa and Mui's (2001) study of Japanese American older adults found no association between the socio-demographic variables (age, gender, living arrangement, and income) and depression (measured by the *Geriatric Depression Scale*). This latter finding may be a sample attribute. Therefore, the review now examines specific temporal demographic characteristics more closely, starting with age.

Burnette and Mui (1994), in an investigation of the effects of life stressors and psychosocial resources on depressive symptoms (measured by the composite score of self-reported depressive symptoms) among frail elderly living alone, did not find a significant association between age and depressive symptoms. Hillerås et al. (1998), in their exploration of positive affect and negative affect (measured using the translated version of the *Positive and Negative Affect Schedule: PANAS*) among the very old (90 years and older) in Sweden, also indicate that age did not appear as a significant correlate with any of the PANAS measurements. By contrast, in Yang's (2007) study of about 4,000 older adults (65 years and older) living in the community, age emerged as a significant predictor of depressive symptoms showing positive and linear effect. However, age trajectories of depressive symptoms flatten and turn negative after controlling for social risk factors such as education, life course stages, health decline, stress factors, and coping resources. In her research, depressive symptoms were measured by the

modified *Center for Epidemiological Studies Depression Scale (CES-D)*.

Burnette and Mui (1997), using the stress and coping model, compared the levels of psychological distress between young-old and old-old Hispanics living in the U. S. and concluded in their bivariate analysis that old-old participants reported higher levels of psychological distress. However, this difference disappeared in the multivariate hierarchical regression analysis. This indicates that age did not show significant effect on psychological depressive symptoms between these two age groups after controlling for other variables. In a study of the prevalence of geriatric depression and its associated factors, Roberts et al. (1997) reports that depression increased with age among the study sample. Nevertheless, when the effects of other psychosocial risk factors were controlled for in multivariate analyses, no significant age effect was found. This evidence suggests that age effect on elderly depression may well be attributable to other factors such as physical health problems, functional impairments, and disability. Thus, healthy, well-functioning older adults may be at no greater risk of depression than a younger cohort. These findings suggest the importance of investigating factors that influence main age effect.

In addition to age, Burnette and Mui (1994) also found that being White and less educated predicted higher levels of depressive symptoms. This finding of race/ethnicity effect was also noted in Mui and Burnette's (1996) study of African American and Hispanic older women's depressive symptoms. This latter study reported significantly lower levels of depressive symptoms among African Americans than Whites but no difference between Whites and Hispanics. Roberts et al. (1997) also found a significant association of less education and depressive symptoms among their older adult sample.

Gender is another significant predictor of depressive symptoms. Roberts et al. (1997)

found that more women reported major depressive episodes than men among their study sample of people aged 50 to 97, with their prevalence rate showing 10.1% and 6.6% respectively. This confirms that being female is among the significant risk factors for depression. This finding is consistent with that of Steffens et al. (2005), who examined biological (vascular brain lesions) and social predictors (lower social support) of long-term geriatric depression. Burnette and Mui (1997) found gender a factor as well in their study comparing psychological distress among young-old and old-old Hispanics. The latter study also indicates the significant association of depression and having fewer children and living alone. Yet another demographic characteristic identified in Mui and Kang's (2006) study of Asian elderly immigrants is the association of depression (measured by the Geriatric Depression Scale) with respondents' longer residence in the U.S.

In sum, as with happiness, depressive symptomatology is associated with a number of older adults' sociodemographic characteristics. This demonstrates the importance of including the characteristics identified as predictors of depressive symptomatology in the study presented here.

Stress factors.

Many illnesses, declining health, and disability can cause depressive symptomatology among older adults (Harris et al., 2003; Mui, 2001; Mui & Burnette, 1996). Empirical evidence has shown the significant association of health and functional and physical impairments with depressive symptoms (Burnette & Mui, 1994, 1997; Harris et al., 2003; Mui & Burnette, 1996; Roberts et al., 1997; Steffens et al., 2005). Burnette and Mui (1994) point to more ADL impairments, physical illnesses, less perceived health, and more ADL and IADL needs as predictors of depressive symptoms among frail elderly living alone. In addition, Steffens and

colleagues (2005), in researching factors related to depression among 204 older individuals with a diagnosis of major depression, also found IADL impairment as a significant predictor of a higher level of depression. In a study of geriatric depression by Roberts et al. (1997), multivariate analyses (unadjusted odds ratio) present perceived mental health, perceived physical health, and ADL as the most significant correlates of depression. The significant association between poor health and depression is also evidenced among Asian older immigrants (Chinese, Korean, and Japanese) (Mui, 1996b, 1998, 2001; Shibusawa & Mui, 2001) as well as Hispanic older immigrants (Cuban, Mexican, and Puerto Rican) living in the U.S. (Mui, 1996a). Harris et al. (2003), in an investigation of various predictors of depressive symptoms (assessed by the *Geriatric Depression Scale*) among older adults in London, note that after adjusting for disability, associations between depressive symptoms and physical health were reduced but still significant. This implies that disability and physical health are independent predictors of depressive symptoms among older adults of varying cultural backgrounds.

In past studies, Burnette and Mui (1997) report that fear of dependency, in addition to perceived poor health and unmet health service needs, affected psychological distress in both young-old and old-old Hispanics, while family conflicts and financial strain influenced the young-old only. It was also found that unmet needs in formal service were the common predictor of psychological distress among Mexican, Cuban, and Puerto Rican older immigrants (Mui, 1996a). Additionally, Mui (1993), in her study of Black and Hispanic older adults, notes that less sense of control in life predicted psychological distress of both ethnic groups, while involuntary relocation was a unique predictor for Black older adults.

In more recent studies of Asian older immigrants, acculturation stress (older adults' perception of a cultural gap between themselves and their adult children) predicted depression

(Mui & Kang, 2006; Mui, Kang, Chen, & Domanski, 2003). The number of stressful life events was another significant stress variable significantly associated with depressive symptoms for Asian samples living in the U.S. (Mui, 1998, 2001; Mui & Kang, 2006; Mui, Kang, Chen, & Domanski, 2003). This evidence is consistent with Hillerås and colleagues' (1998) study in Sweden. They confirm earlier findings that elderly immigrants are likely to experience depression when they cope with stressful life events as well as physical losses experienced in an aging process and an environment with limited social resources available to help them cope (Lee, Crittenden, & Yu, 1996).

As reviewed above, stress factors that can trigger depressive symptomatology among older adults are many. These research findings inspired to examine the effects of multiple stress factors on depressive symptomatology in this study.

Coping resources.

Evidence and theory suggest that positive social exchanges can provide a buffer between stressful events and emotional distress (House, 1981). Other evidence shows that negative exchanges exacerbate the deleterious effects of life crises (Stephens, Kinney, Norris, & Ritchie, 1987). The literature confirms the significant impact of a variety of coping factors on depressive symptomatology among older adults. Social exchange, social support, and social network are among such dominant coping factors (Burnette & Mui, 1994, 1996, 1997; Harris et al., 2003; Ingersoll-Dayton, Morgan, & Antonucci, 1997; Steffens et al., 2005). Ingersoll-Dayton et al., in an investigation of the impact of social exchanges on positive and negative affects (measured by the *Affect Balance Scale*) in a sample of older adults aged 50 to 95, note that negative exchanges were related to negative affects, including a feeling of depression, while positive exchanges were associated with positive affects.

Shibusawa and Mui (2001) conducted a study of depression among Japanese older immigrants in the U.S. In their study, coping factors including the availability of emotional support and a larger number of close friends were shown to be the significant predictors of less depression. In a study where 90 % of the sample was Caucasian, Steffens and colleagues' (2005) findings endorse Shibusawa and Mui's finding. These scholars also found that having a non-family social network was the significant predictor of less depression.

With regard to the quantity of social support as a coping resource, Mui (1993), in her study of Black and Hispanic older adults, reports that fewer formal care providers was a unique predictor of depressive symptoms of Black older adults, while fewer informal helpers was so for Hispanic older adults. On the contrary, Burnette and Mui's (1994) findings studying the effects of life stressors and psychosocial resources on depressive symptoms among frail older adults living alone demonstrate the contribution of more informal helpers to explaining more depressive symptoms. Being helped by more people may point to deteriorating functional impairments requiring a greater assistance and decreased sense of control, both of which were found to be associated with depressive symptoms. This may explain the coping impact of having more social support on the depressive status of older adults, suggesting that quantity of social support does not determine a positive effect.

Goldberg, Van Natta, and Comstock (1985) suggest that a lower perception of social support as well as the occurrence of stressful life events is related to geriatric depression among elderly women. This finding is confirmed in Oxman and Hull's (2001) finding that higher perceived social support is associated with decreased depression symptoms in primary care patients aged 60 and older. In studies sampling Chinese (Mui, 1996b, 1998) and Korean (Mui, 2001) immigrant elderly, the significant association between satisfaction with help received from

family and less depression is evidenced. Mui and Kang (2006) and Mui, Kang, Chen, and Domanski (2003) also studied Asian elderly immigrant groups (Chinese, Korean, Indian, Filipino, Vietnamese, and Japanese) and note that the proximity of children was an important factor for coping with elderly depression.

In gerontology literature, the relationship between volunteering experience and psychological well-being is also studied from a depression prevention perspective. As noted earlier, volunteering activity can also serve as a coping resource as people age. Morrow-Howell, Hinterlong, Rozario, and Tang (2003) studied the effect of volunteering on psychological well-being of older adults aged 60 and older in the U.S. These researchers captured well-being by self-rated health, functional dependency, and depressive symptomology (modified CESD scale) and found that older volunteers who engage in more hours of volunteering reported higher levels of well-being. However, the number of organizations for which older adults volunteer, the type of organizations, and the perceived benefit of the work for others do not impact the elder volunteers' well-being. By contrast, in Jirovec and Hyduk's (1998) study of older adult volunteers (age 62-82), the type of and number of volunteer activity and hours donated to volunteering were related to psychological well-being. In their research, well-being was assessed by the short version of Bloom and Blenkner's (1970) *Contentment Scale* to investigate association of volunteerism and contentment. Thus, although the significant effect of volunteering on psychological well-being is evidenced, findings on some aspects of volunteer activities are inconsistent across research depending on researchers' selected variables.

Faith and religion are frequently noted as coping resources in how individuals cope with depression and other mental health problems (Lee, Morton, Walters, Bellinger, Butler, Wilson et al, 2009; Maton & Pargament, 1992; Pargament, 1997). Burnette and Mui (1997) note that more

psychological distress was associated with increased church contacts among the old-old Hispanics. This finding is consistent with Mui and Kang's (2006) and Mui et al.'s (2003) research results of religiosity of the Asian older immigrants. This significance of participation in religious activity was also supported by Brandthill, Duczeminski, Surak, Erdly, Bayer, and Holm's (2001) study of the well-being (happiness) of disabled older nuns.

Although research on the effect of health insurance coverage on psychological well-being is limited, Gaskamp (2004) has identified having health insurance as a significant factor of quality of life and depression. Her findings indicate that changes in health insurance were significantly related to a decrease in quality of life and an increase in depression. Schulder (1985) also reported significant contributions of federal health programs, that is, Medicare and Medicaid to the well-being of older adults.

Summary overview of predictors of depressive symptomatology among older adults.

In sum, the literature reveals that **socio-demographic factors** significantly associated with depressive symptomatology among older adults include race, gender, education, the number of children, and living arrangement. For the Asian immigrant elderly samples, longer stay in the U.S. is also associated with depression. Where age appears as a significant predictor in bivariate analysis, age loses significance in multivariate analysis in all studies reviewed. This suggests an empirical exploration of factors affecting a main age effect. **Stress factors** identified as impacting depressive symptomatology are many. These include ADL and IADL impairments/disability, unmet ADL and IADL needs, physical illnesses, perceived mental health, perceived physical health, unmet health service needs, family conflicts, acculturation stress, fear of dependency, financial strain, the number of stressful life events, involuntary relocation, sense of control, and unmet needs in formal social service. With regard to **coping factors**, the number

of formal care providers, the number of informal helpers, a perception of social support, volunteering, church contacts, social exchange, and non-family social network, and health insurance have been shown to have significant association with depressive symptomatology. For Japanese older immigrants, the number of close friends and emotional support may be a significant predictor, and for Asian immigrant elders, religiosity, the proximity of children, and satisfaction with family help are associated with their depressive symptoms.

Anxiety

Factors Associated with Anxiety among Older Adults Living in the Community

Another significant dimension that has been studied in the psychological well-being literature is *worries* or *anxiety* (Campbell, Converse, & Rodgers, 1976; Veroff, Douvan & Kulka, 1981). According to Lenze (2006), “anxiety is characterized by worry and/or fear in response to a situation or stress” (p. 69). The experience of anxiety provides physiological readiness for needed actions (Lenze & Shear, 2002; Lenze, 2006). Thus, this construct connotes anxiety to be a normal response to threatening situations and coping with life problems for changes in the future (Lenze, 2002; Veroff et al.). All individuals show symptoms of anxiety at times, and most are able to cope with their problems as well as their feelings about them (Veroff et al.). In contrast, clinically significant anxiety is chronic and uncontrollable (Lenze, 2006). Considering its association with stress and coping, anxiety is an important construct in understanding old-age psychological well-being, based on the stress and coping model.

A literature review found various studies on older adults’ anxiety. Since this study adopted anxiety as a dimension of late-life psychological well-being, research that has measured anxiety as an outcome variable or a dimension of an outcome variable was reviewed. Summaries of the studies reviewed are noted here. In the gerontology literature, anxiety has been examined

by various standardized measures. These include the *Symptoms of Anxiety and Depression Scale*, the *State-Trait Anxiety Inventory*, the *Brief Symptom Inventory subscale*, the *General Health Questionnaire*, the *LEIPAD depression and anxiety scales*, and the *Jackson Personality Research Inventory*, and/or a researcher's original question/questions. The remainder of this chapter reviews predictors of anxiety as investigated in the research presented. In line with the stress and coping framework of this study found in Chapter 3, predictors of anxiety found in the literature will be discussed by socio-demographic factors, stress factors, and coping resources.

Socio-demographic factors.

The literature review found some research that has investigated variations in anxiety among different age groups. In a longitudinal path analysis of mental well-being between the younger older adult age group (aged 65-74 at baseline) and the older age group (aged 75-84 at baseline) in Finland, Lampinen, Heikkinen, Kauppinen, and Heikkinen (2006) note slightly lower older adult mental well-being among the older age group. In this study, mental well-being was measured by the factor scores of depressive symptoms, anxiety (assessed on a five-point scale of descriptions such as not feeling anxious or nervous and getting anxious and excited fairly easily), loneliness, self-rated mental vigour, and meaning in life. No significant correlation was found between anxiety and age group. Focusing on an elderly group (age 60-80) and a middle-age group (age 40-55) in the U.S., Kant and D'Zurilla (1997) investigated the relations among everyday problems (such areas as health, family and friends, the environment, work, and finance), problem solving ability, anxiety (measured by a *Trait Anxiety Scale*) and depression. These researchers report significant main effects of age, finding that older people reported more anxiety than younger people. Nevertheless, age did not interact significantly with either everyday problems or problem solving after the main effects were accounted for. Bennett (1997) examined

the effects of widowhood on late-life well-being (operationalized as personal disturbance, morale, social functioning, and health) by comparing three elderly groups of widowed women, still-married women, and never-married women. In this eight-year longitudinal study, this researcher adopted the *Symptoms of Anxiety and Depression Scale* to measure age effects on personal disturbance and found that personal disturbance increased as people aged, while moral and social engagement decreased. A similar finding is reported in Winter, Lawton, Casten, and Sando's (2000) research that investigated long-term and short-term effects of bereavement and marriage on six dimensions of psychological well-being in old age (anxiety, depressive affect, hostility, positive affect, contentment, and shyness). When these six dimensions were assessed by their frequency during the past year in a multivariate analysis of covariance (MANCOVA), older women in general had significantly higher anxiety.

In contrast, Buono, Urciuou, and De Leo (1998), in a comparison of the quality of later life in Italy, found that centenarians presented lower levels of anxiety (measured by the *Brief Symptom Inventory subscales* and the *LEIPAD depression and anxiety scales*) than those aged 75-85, and others aged 86-99. Nevertheless, no significant differences were observed among the age groups. Plach, Napholz, and Kelber (2001), in a cross-sectional descriptive survey of American women in early middle-age (40-55), midlife-age (56-65), and old-aged women (66 and over) who had heart surgery, also observe significantly less anxiety (assessed by a 20-item anxiety subscale of the *Jackson Personality Research Inventory*) among the elderly group than the two younger groups. Teachman, Siedlecki, and Magee's (2007) research of U.S. community-dwelling individuals supports these findings. They found less negative affect (depression and anxiety) and more positive affect in the older adult group (60-93) compared to the young adult group (18-39) and the middle-age group (40-59).

Tran (1997) conducted a study of social stress among three elderly groups of Mexican Americans, Cuban Americans, and Puerto Ricans. This researcher also reports significant age effect on anxiety that was measured by a question “is being anxious or worried a serious problem for you these days?” As age increased in this sample, the likelihood of experiencing anxiety declined. Thus, findings vary in the effect of aging on anxiety. While many studies found significant age effect on anxiety, research findings are inconsistent in the course of changing anxiety with the advancement of age. Some research concludes that anxiety increases with age while others report just the opposite. In addition, a review found limited studies of age effect on anxiety among American older adults. Therefore, further research on age effects on anxiety is suggested with a U.S. national sample.

Tran’s study (1997) of the elderly Mexican Americans, Cuban Americans, and Puerto Ricans also reports gender as a significant predictor of anxiety. Older men were less likely to experience anxiety than older women. Significant gender effects were also revealed in Kvaal et al.’s study (2008) on the co-occurrence of anxiety and depressive disorders among older adults in England. Their findings demonstrates that older women, marital status (being single, widowed, and divorced/separated), and living alone led to significantly higher estimates in all anxiety and depressive syndrome categories.

Zhang and Liu (2007) studied the effects of childlessness on the psychological well-being and life satisfaction among older adults in China. In their research, psychological well-being was examined with a focus on loneliness, uselessness, and anxiety that was assessed by a question of “Do you often feel fearful or anxious?” The results demonstrated that the childless elderly were significantly less satisfied with their lives and felt more anxious and lonely than elderly parents when socio-demographics (age, gender, and education) were controlled for.

However, when additional socioeconomic variables (residence, living arrangement, availability of pension, and medical services) were accounted for, childlessness was no longer significantly associated with either anxiety or loneliness. In their study, constant association of education, place of residence, living arrangements, economic security, and access to medical services were also found with psychological well-being and life satisfaction.

Stress factors.

Health status appears in older adult literature as an important predictor of anxiety. The eight-year longitudinal path analysis of mental well-being in old age by Lampinen et al. (2006) indicates that respondents' number of chronic illness and mobility status, in addition to leisure activities, predicted mental well-being (depressive symptoms, anxiety, loneliness, self-rated mental vigour, and meaning in life) at baseline in their sample of the younger older adult age group (age 65-74) and the older age group (age 75-84) in Finland. In the follow-up, mobility status, baseline mental well-being, and younger age were important mental well-being factors. However, the predictors of each of these five dimensions of mental well-being were not analyzed in their study. Kvaal et al.'s (2008) study on anxiety and depression in England also notes the highest significant estimate, unadjusted and adjusted for age and gender, for increased disability. Increased disability augments the risk of all the co-morbid syndrome categories of anxiety and depression.

Bowling, Farquhar, and Grundy (1996) report similar findings. These researchers conducted a longitudinal study of psychiatric morbidity (mainly anxiety and depression) among three groups of elderly people in England: the oldest sample (aged 85 and over at baseline), the younger inner-city sample (aged 65-85 at baseline), and the younger semi-rural sample (aged 65-85 at baseline). In their research, psychiatric morbidity was assessed by the *General Health*

Questionnaire. These researchers concluded that the strongest predictors of psychiatric morbidity at baseline were poor health and functional ability. It was also revealed that changes in psychiatric morbidity at follow-up, two and a half to three years later, were most strongly predicted by baseline psychiatric status, followed by health conditions.

Tran's (2007) study again evidences the significant effects of health status as well as poverty on anxiety. Specifically, the Hispanic older adults with more physical limitations, a poorer rating of health, and wretched financial conditions were more likely to experience anxiety than those under more robust health and financial conditions. Beekman et al. (2000), based on the vulnerability stress model for anxiety and depression, investigated the co-morbidity of, and communality of risk factors associated with, major depressive disorders and anxiety disorders among community-based older adults in the Netherland. Their analysis concludes that pure anxiety disorders, when defined by DSM-III, were significantly associated with chronic physical illnesses, functional limitations, less education, smaller network, life events (war), and recent losses of other than partner.

Bennett (1997) also examined the effects of widowhood on late-life well-being in an eight-year longitudinal study comparing three groups of never-married, widowed, and still-married older women (mean age 74.7). This research evidences that personal disturbance (assessed by the *Symptoms of Anxiety and Depression Scale*) increased significantly following widowhood although it slightly decreased at a later point. In contrast, Winter et al.'s (2000) study of bereavement and marriage effects on psychological well-being among the recently-widowed, the recently-married, the long-widowed, and the long-married reveals no significant group differences in anxiety.

Coping resources.

The activity theory of aging insists that elder involvement in activity can reinforce their sense of subjective well-being (Litwin, 2000). The research by Lampinen et al. (2006) among old-age groups in Finland reports that leisure activity was an additional mental well-being predictor in old age. Thus, their research findings suggest interventions to prevent older people's inactivity. Kant and D'Zurilla (1997), in their study of the relations among everyday problems, problem solving ability, and depression and anxiety, also find that problem-solving (positive problem orientation, negative problem orientation, rational problem solving, impulsivity/carelessness style, and avoidance style) deficits were significantly associated with both depression and anxiety in both the elderly group (age 60-80) and the younger group (age 40-55) in Pennsylvania.

Beekman et al. (2000), in their research on the co-occurrence of anxiety and depression and associated risk factors among older community residents in the Netherlands, report the external locus of control as the only common factor in predicting both pure major depressive disorder and pure anxiety disorders. This study reports that emotional support was significantly associated with pure anxiety disorders. Jeon, Dunkle, and Roberts (2006) studied the worries of the oldest-old. In their research, the oldest-old who reported a higher level of worry (measured with the Daily Geriatric Hassles Scale) had more frequent social contacts (= social support). Having more contacts indicates a greater necessity for assistance. This association explains a higher level of worries among the oldest-old with more frequent social contacts in their research.

Torges, Stewart, and Nolen-Hoeksema (2008) conducted a longitudinal study on the role of regret resolution in the bereavement of young-adults (age: 23-39.9), the middle-aged (age: 40-64.9), and older adults (age: 65-82) in the U.S. Adapting to a loss of the loved one was

measured by depressive symptoms, well-being, anxiety, and rumination. Their research presents the findings that while no age effect was found in predicting differences in anxiety, regret resolution contributed to loss adaptation. They report that study participants who resolved their regrets during the first 6 months of grief did not experience changes in anxiety early in their bereavement, but they reduced anxiety from 1 month to 18 months. This indicates that those who resolved regrets at an early stage of bereavement could decrease anxiety over time.

Summary overview of predictors of anxiety among older adults.

Overall, a review of the empirical literature identifies various predictors of anxiety in old age. Significant **socio-demographic predictors** found in the literature are age, gender, marital status, childlessness, education, place of residence, and living arrangement. **Stress factors** significantly associated with anxiety are economic insecurity, the number of chronic illnesses, mobility, poor perceived health, life events (war), widowhood, and a recent loss of other than a partner. Important **coping factors** include access to medical services, social network size, emotional support, social contact (social support), locus of control, leisure activities, problem-solving ability, and regret resolution in bereavement. However, research findings are inconsistent on some predictors.

Other researchers have investigated well-being as the combined construct of different dimensions including anxiety. These studies explore what factors predict a combined operationalization of well-being where the predictors of individual each well-being dimensions are not analyzed. For instance, Beekman et al.'s (2008) study explores the risk factors of the co-occurrence of anxiety and other disorders combined and does not explain the risk factors of each of those disorders separately. Thus, the research undertaken by this author makes an attempt to “unbundle” these dimensions of well-being and to examine them more closely.

Factor Summary of Predictors of Psychological Well-Being among Older Adults

Identified from the Literature

Table 2.1 lists significant factors identified in the literature as associated with each dimension of psychological well-being in later life that are the outcome measures for the study reported here: happiness, depressive symptomatology, and anxiety. As noted in this table, the predictors of these indicators are multifaceted and at times inconsistent. The dearth of predictors of happiness among older adults reflects the reality that gerontology research measuring happiness is limited. This evidence suggests the necessity for further research assessing this construct to better understand the psychological well-being of the older population and improve policy and programs responses to this population. The happiness construct is particularly important in assessing the subjective aspects of older adult psychological well-being.

Various significant factors have been identified for each psychological well-being dimension. Findings on effect of age, however, are neither sufficient nor consistent across research. Nor is age a consistent predictor between bivariate and multivariate analyses. It appears, therefore, that further exploration of age as a predictor of well-being in older age is indicated and is particularly important as the largest generation in US history, the Baby Boom, reaches “old age”. As seen in Table 2.1, depressive symptomatology and anxiety are psychological well-being dimensions that are explained by socio-demographic factors, stress factors, and coping factors. In contrast, happiness is only explained by socio-demographic and coping factors. The investigation of potential affect of stress factors on this latter construct needs to be pursued in order to better understand how older adults cope with age-related declines and losses to maintain their happiness, as a measure of well-being.

Based on this review of factors associated with psychological well-being among older

adults, the next section will review theories and a theoretical model that explain psychological well-being in later life.

Table 2.1. Significant Factors Associated with Psychological Well-being among Older Adults Living in the Community as Noted in the Literature

Predictors	Measures of Psychological well-being		
	Happiness	Depressive symptomatology	Anxiety
SOCIO-DEMOGRAPHIC CHARACTERISTICS			
Age	○	○	○
Higher socioeconomic status	○		
Gender	○		
Female		○	○
Race/Ethnicity			
Being White		○	
Education	○	○	○
Income	○		○
Marital status			○
Widowhood			○
Living arrangement			○
Living alone		○	○
Fewer children		○	
Childlessness			○
Longer residence in the U.S.		○	
Place of residence			○
COVARIATES			
Baseline psychiatric conditions			○
Baseline mental well-being			○
STRESS FACTORS			
<i>Health domain</i>			
Poor health			○
Physical illness		○	○
Perceived poor physical health		○	○
Perceived poor mental health		○	
Unmet health service needs		○	

Predictors	Measures of Psychological well-being		
	Happiness	Depressive symptomatology	Anxiety
Doctor visit		○	
Health locus of control		○	
<i>Functional domain</i>			
Functional limitation/disability		○	○
ADL impairments		○	○
IADL impairments		○	
More ADL & IADL needs		○	
Fear of dependency		○	
<i>Financial domain</i>			
Financial strain		○	○
<i>Life domain</i>			
Life events (Number)		○	
Involuntary relocation		○	
Loss of significant other			○
War			○
Acculturation stress		○	
<i>Social domain</i>			
Negative social exchange		○	
Family conflicts		○	
Unmet formal service needs		○	
Perceived unmet needs		○	
COPING RESOURCES			
<i>Social support</i>			
Emotional support		○	○
Access to medical services			○
Social exchange (positive)	○	○	
Social network (size)	○		○
Frequency of positive and negative exchange	○		
Quality of social contacts	○		

Predictors	Measures of Psychological well-being		
	Happiness	Depressive symptomatology	Anxiety
Non-family social network		○	
Quantity of contacts with friends	○		
Number of formal care providers		○	
Number of informal care providers		○	
Quality of contacts with adult children	○		
Assistance from adult children		○	
Satisfaction with family help		○	
Proximity of children		○	
Number of close friends		○	
Number of adult children	○		
Number of people who visited the respondent regularly	○	○	
Number of people whom the respondent visited	○	○	
Frequency of spending time with people not living with the respondent	○		
Perception of social support		○	
<i>Social participation</i>			
Participation in religious and community activity	○		
Church contacts		○	
Commitment to service	○	○	
Leisure activity			○
Interaction of social participation and loss of a significant other		○	
Volunteer	○	○	

Predictors	Measures of Psychological well-being		
	Happiness	Depressive symptomatology	Anxiety
<i>Psychological & personality domains</i>			
Locus of control		○	
External locus of control		○	○
Problem-solving ability			○
Regret resolution in bereavement			○
Self-efficacy	○		
Positive outlook	○		
Extraversion/ Extroversion	○	○	
Neuroticism		○	
Spirit of acceptance	○		
Core beliefs in spirituality	○		
Competence	○		
Religiosity		○	
Balance between role rewards and role concerts			○
<i>Health insurance</i>		○	

3. CONCEPTUAL FRAMEWORK

A Theoretical Model and Three Theories Associated with Psychological Well-being among Older Adults Living in the Community

The conceptual framework for this study of psychological well-being among older adults living in the community is derived from the stress and coping model (Lazarus & Folkman, 1984) supported by three other theories: socio-emotional selectivity theory (e.g., Carstensen, Fung, & Charles, 2003), the life course perspective (e.g., Bengtson, Burgess, & Parrott, 1997), and critical theory (e.g., Cole, 1993). This section reviews these theoretical models and theories and presents the conceptual framework for this study on which research questions and hypotheses are based.

Stress and Coping Model

The stress and coping model (Lazarus & Folkman, 1984) explicates the content of stress and coping and postulates that the way individuals cope with stress makes a difference in their emotional well-being (Pearlin & Schooler, 1978). In other words, what individuals do or fail to do in addressing their problems makes a difference in their well-being (Ibid.). The stress and coping model proposed by Lazarus and Folkman defines **psychological stress** as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (p. 19). In this model, **coping** is defined as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (p. 141). Thus, stress, cognitive appraisal, and coping are key components in this model.

Cognitive appraisal is essential to understanding the influences of stressors on individuals' well-being (Hooker, Monahan, Bowman, Frazier, & Shifren, 1998). Lazarus and Folkman (1984)

distinguish the stress-coping evaluative process into two consecutive processes: *primary* appraisal and *secondary* appraisal. The authors emphasize that each individual appraises psychological stress in his or her own way; therefore, there is no universal, objective way to predict it. In their stress-coping model, primary appraisal occurs when the individual categorizes his or her encounter with the environment into irrelevant (no implication for well-being), benign-positive (well-being maintained or enhanced), or stressful (harm or loss, threat, and challenge). If the individual appraises the encounter as stressful in this primary process, then he or she proceeds to secondary appraisal, in which available coping options and the likelihood of accomplishment with the coping option/options are taken into account. Some individuals cope well with stress, while others in a similar situation do not. While many features of the person and the environment affect this secondary appraisal, the individual's actual coping depends largely on resources that are available and constraints that inhibit the use of resources.

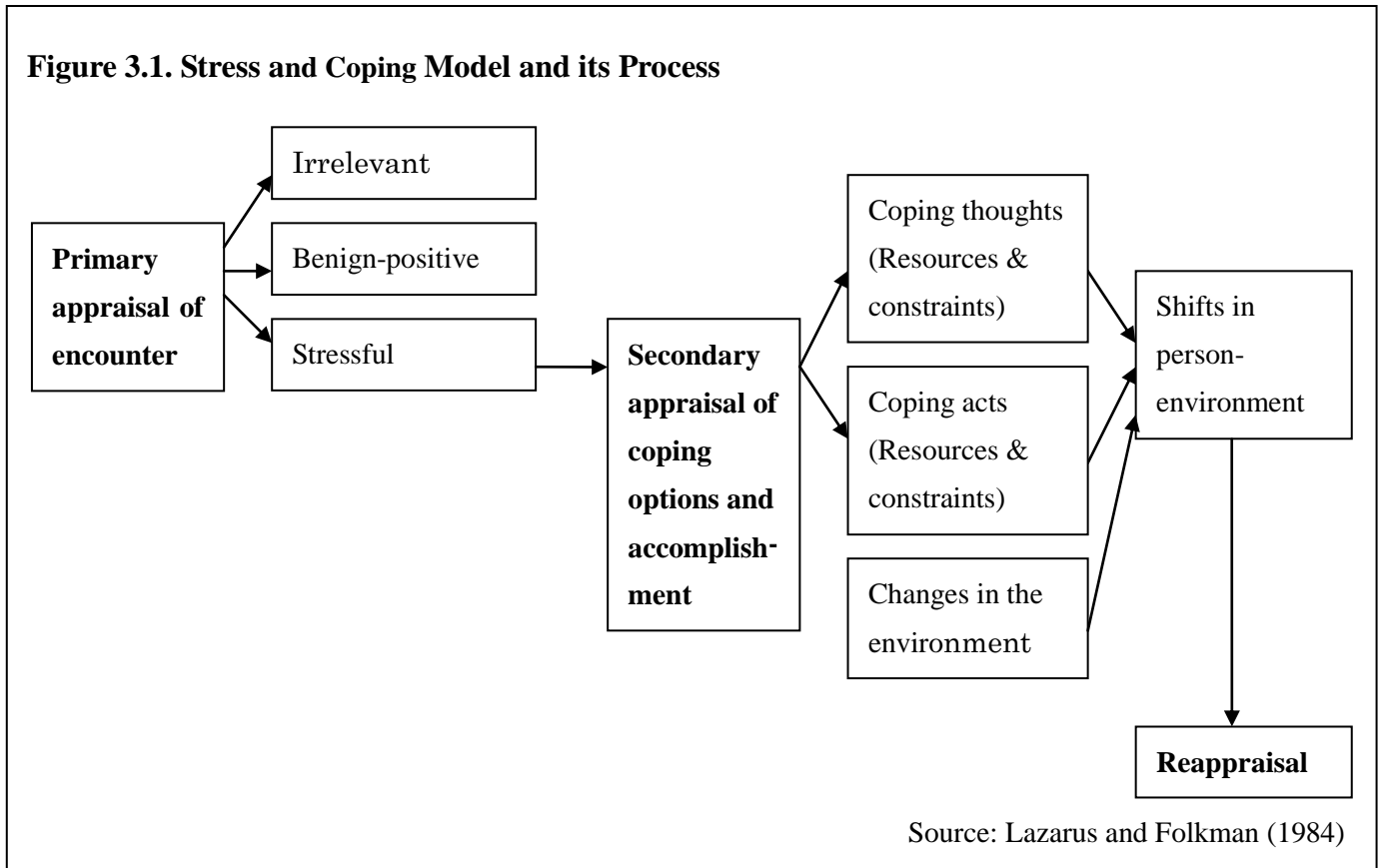
Various contextual factors affect coping, including age, gender, economic status, and family structure (Parkes & Weiss, 1983). Additionally, different types of stress demand different coping capacities and thus elicit different coping responses (Folkman & Lazarus, 1980). Although Lazarus and Folkman (1984, p. 159) describe how it is impossible to catalogue all coping resources, major categories are identified as the *properties of the person* and the *environmental resources*. The former presents health and energy (physical resources), positive beliefs (psychological resources), and problem-solving (the ability to select and implement an optimal action/actions) and social skills (the ability to communicate and behave with others). The latter includes social support (emotional, informational, and/or tangible support) and material resources (money and goods and services that are purchased).

In the cognitive appraisal process, the individual appraises whether an encounter is amenable

to change or cannot be changed. This appraisal influences subsequent coping orientation. If the encounter is changeable, the individual is oriented toward problem-solving coping, in which he or she acts to modify the encounter. If not, the individual is directed at emotion-focused coping, in which he or she attempts to accept or get used to the encounter (Lazarus and Folkman, 1984). In the coping process, the person-environment relationship shifts as the result of coping acts to change the environment, coping thoughts to modify the meaning of or to increase understanding of the encounter, or changes in the environment independent of the individual and his or her coping efforts. Thus, the coping process requires continuous appraisals and reappraisals of such shifts in the person-environment relationship, their significance, and further coping thoughts and acts (Ibid.).

The stress and coping model and its process are illustrated in Figure 3.1. The main attribute of this model is that it provides researchers with a framework to examine how diverse factors and coping responses affect psychological well-being in later life. It is important to note, however, that older adults do more than just engaging in stress-coping responses. Rather, they are actively engaged in efforts to maintain their psychological well-being. This active engagement by older adults in their psychological well-being can be explained by socio-emotional selectivity theory.

Figure 3.1. Stress and Coping Model and its Process



Socio-emotional Selectivity Theory

In later life, many older adults are active agents of positive aging outcomes and enhance their psychological well-being despite multiple losses and declines. Socio-emotional selectivity theory (e.g. Carstensen, Fung, & Charles, 2003) enhances the stress and coping model by through presentation of a more active prospective aspect of the aging process. Life-long human development can be understood as an outcome of intentional actions to attain congruence between the actual self and the ideal self (Greve, Rothermund, & Wentura, 2005). In this process, individuals select personal goals and translate those goals to personal actions. However, those goals shift in the life span (Fung, 2005). It is revealed that while extroversion (focus on the external world) characterizes younger adults, introversion (focus on subjective inner experiences) becomes a characteristic of older adults (Ibid.). In addition, individuals' conceptions

of psychological well-being are also likely to change as their goals change throughout adulthood (Ibid.).

In explaining causes for goal changes in late adulthood, Brandstädter and Rothermund (2002) propose a dual-process framework of goal change, which is comprised of the assimilative mode (intentional efforts to modify the actual situation in accordance with personal goals) and the accommodative mode (adjustment of personal goals in accordance with situational constraints and limited resources). Corresponding to Brandstädter and Rothermund's proposal, Fung (2005) identifies two groups of mechanisms: reactive adaptation and proactive choice. Reactive adaptation occurs when older adults become aware that the present goals are no longer attainable due to environmental or resource constraints and, so, replace the goals with more tangible ones. In contrast, proactive choice occurs when older adults are challenged to pursue goals that are most important to them. In this perspective, goals shift as what is desirable in one life stage does not remain in another. However, in real life, reactive and proactive goal changes can occur simultaneously so that a goal may no longer be attainable and significant to an individual. Proactive choice is the premise of socio-emotional selectivity theory that emphasizes personal goal changes as "a function of future time perspective" (Fung, 2005, p. 177). This theory posits that when individuals perceive a time limit or their life ending, they reorganize goal hierarchies in a way that with increasing age prioritizes emotionally meaningful goals (Fung, Carstensen, & Lutz, 1999). This evidence is supported by the experimental studies by Fung and Carstensen (2004) and by Carstensen, Fung, and Charles (2003) which reveal that older adults proactively choose to attain emotional goals, not because other goals are unattainable, but because emotional goals gain importance, given their lifetime constraints.

Many theories of adult development, including disengagement theory and activity

theory, are concerned with losses associated with increasing age, goal shifts, and adaptation to those losses. Even though a distinction between reactive adaptation and proactive choice is difficult to make in real life, a theoretical distinction is of great significance in terms of policy endeavors. Knowledge on socio-emotional selectivity theory postulates that a reactive adaptation approach provides the older population with resources and support to help them attain their original goals. On the other hand, a proactive choice approach pays more attention to their subjective goal choices and encourages them to make goal changes. The study of reactive adaptation and proactive choice of younger and older adults by Fung and Carstensen (2004) found that reactive adaptation due to goal limitation leads to less well-being and a search for emotional comfort. In contrast, those under life's time limits do not perceive a goal limitation as a loss: instead they seek emotional meaning rather than support. These results hold for both younger and older generations. In reality, some reactive adaptation is inevitable. However, the evidence found by Fung and Carstensen indicates that a proactive view of age-related goal change is also important in promoting well-being among older people.

If aging postulates coping and adaptation solely as conceptualized in the stress and coping model presented earlier, positive development in old age cannot be envisioned, and human development cannot be fully understood. The stress and coping model posits that individuals favor problem-solving coping and a modification of a life problem if it is changeable. However, if not, they go for emotion-focused coping to accept the problem. These perspectives lean more toward reactive adaptation than toward proactive choices. Importantly, in various situations, older adults, as the active agents of positive aging outcomes, proactively reprioritize their life goals. This may be one reason why individuals maintain their psychological well-being in old age.

Adding socio-emotional selective theory's proactive choice perspective to the stress and coping model will help researchers capture aging and psychological well-being in later life in a more active manner. This theoretical approach goes beyond a need for older adults to adjust to the process of aging by positioning them as proactive as well as reactive. Nevertheless, this expanded theoretical approach does not explain the heterogeneity of emotional goals nor does it address the social, structural, and historical influences on individual subjectivity that underlie emotional goals. It also fails to incorporate other well-being factors than emotional goals and generational differences. These weaknesses can be compensated for by the life course perspective and critical theory, as are applied in the conceptual framework presented here.

Life Course Perspective

As reviewed in the previous chapter, a variety of factors, including micro life factors and macro social-structural factors, can be associated with psychological well-being in later life, and those factors are also diverse among different age groups. The life course perspective, which has evolved in aging studies since the late 1980s, provides a useful theoretical framework through which such heterogeneity can be explained (Bengtson, Burgess, & Parrott, 1997).

In gerontology, the life course perspective presents the multidisciplinary view of human development that focuses on changes with age and life experiences (Hooyman & Kiyak, 2011). Thus, by extracting what is common and complementary among disciplines, this perspective bridges seemingly disparate approaches (biology, psychology, physiology, sociology, anthropology, history) applying them to the life course (Hooyman & Kiyak). Gerontology researchers have incorporated this perspective in their attempts to explain several phenomenon including: the dynamic and processional nature of aging; life trajectories and age-related transitions; aging in social and cultural contexts; and/or the influences of time, period, and cohort

on the aging process for individuals and/or social groups (Bengtson et al., 1997). The life course perspective reinforces both the stress and coping model and socio-emotional selectivity theory by allowing researchers to perform both micro- and macro-level analyses of how various factors affect later-life well-being among different aging groups and cohorts, with a focus on intra- and inter-individual, social, structural, and time contexts.

The usefulness of this perspective is as follows. First, the life course perspective captures both the dynamic nature of aging and individual differences in the aging process at a micro level. Aging is a complex process that cannot be explained from only one perspective (Cavanaugh & Whitbourne, 1999; Litwin, 2005; Rower & Kahn, 1998; Steverink, Lindenberg, & Ormel, 1998; Steverink, Westerhof, Bode, & Dittmann-Kohli, 2001). Human development is a multidirectional, nonlinear process that involves stability in some functions and losses (decline) and gains (growth) in others (Hooyman & Kiyak, 2011). Additionally, aging patterns are not universal in all individuals due to the heterogeneity of life course pathways consisting of varying life trajectories and transitions (Hooyman & Kiyak; Moen, 1996). Taking these perspectives into account, individual aging and the well-being of older adults are most reliably considered in a multifaceted sense. A review of conventional aging theories reveals diversity in the discipline of gerontology (Friedrich, 2001) with a tendency for gerontologists to focus on either decline or growth (Baltes & Carstensen, 1996). In contrast, the life course perspective reflects stability, decline, changes, and development in the entire life cycle, and their impacts on an individual's well-being in later life.

Second, the focus on macro social-structural contexts in the life course perspective explains cumulative advantages and disadvantages among groups with different characteristics and historical experiences (Hagestad, 1999; Smith & Baltes, 1998). As reviewed earlier, more

than 78 million Baby Boomers will enter the old age cohort starting in 2011 (U.S. Census Bureau, 2006). As they have experienced historical events and lived in environments different from those for the currently elderly cohort, they will present a different life course. Thus, theory is needed to connect the experience and meaning of aging and changes in social structures (Marshall, 1995) taking into account both the present and future older cohorts. Theoretical limits that constrain researchers from the examination of heterogeneity can hinder understanding of the aging phenomenon and the potentials for effective policy planning (O'Rand, 1996). The life course perspective, which incorporates the effects of time and cohort on the aging process, becomes particularly important when we consider Greatest Generation and Baby Boomer cohort differences in well-being as well as when we want to learn the future aging phenomenon from the current older cohort. The life course perspective allows the examination of the life course processes of the cohorts as relatively homogeneous groups that share critical attributes at particular points in history, as well as the heterogeneity, including inequality, of life course processes within the same cohort (Maddox, 1987).

Even though the life course perspective is one of the most frequently cited perspectives in gerontology (Bengtson et al., 1997), it is still a broad guiding framework rather than a theory, a model, or a paradigm (Hooyman & Kiyak, 2011). Additionally, it is difficult to incorporate into a single research design the many contextual variables that this perspective identifies conceptually (Bengtson, et al.). Furthermore, life course scholars have tended to focus on the affects of social situations that are beyond the control of individuals, and have inadequately perceived individuals as the proactive and powerful initiators of their life course trajectories (George, 1996). This weakness of the perspective can be compensated for by critical theory or critical gerontology, which emphasizes people's subjective value, emancipation from control, and praxis as discussed

below.

Critical Theory

Critical theory in gerontology has been described as an approach to aging study inspired by critical theory in the tradition of the Frankfurt School of Critical Social Theory (Moody, 1993) led by Jurgen Habermas (Cole, 1993). This tradition attempts to interpret the meaning of human experience in terms of understanding cultural tendencies underlying politics, science, and everyday life. Derived from this tradition and based on a multidisciplinary approach (Minkler, 1996), critical theory is concerned with social changes that are aimed to emancipate older adults from all forms of domination, including domination by bureaucracy and the marketplace, toward the positive last stage of life. This theoretical approach has had a vast impact on theorizing aging in recent years (Powell, 2006).

Critical theory stands on the following premises: first, knowledge should involve the subjective views of study objects in its definition; and second, knowledge should bring a positive vision of how things will be better rather than a mere understanding of the status quo (Hooyman & Kiyak, 2011). This theoretical perspective also holds, along with the life course perspective, that people age as biological, social, psychological, and spiritual beings and that the aging process entails individual differences in multiple dimensions with regard to decline and development, or negative and positive elements (Moody, 1988). Thus, critical theory captures significant variations in human development and the meaning these have in the lives of older adults.

In critical theory, people's subjective values and interests are important elements. Thus, critical theory incorporates the subjective and interpretive dimensions of human aging or a humanistic orientation into theory (Moody, 1988). Critical theory is suspicious of the idea that

value-free science promotes well-being for all (Moody, 1993).

With a humanistic critical perspective (Minkler, 1996), critical theory aims to offer a positive view of human development and, therefore, the vision of a good old age. It does so by generating “emancipatory knowledge” that promotes the liberation of the older population from the depreciation of old age, which is all too prevalent in modern Western culture (Hooyman & Kiyak, 2011 p. 328). It also criticizes current social policies for presenting a fragmented view of the human life course by reflecting on old age as a decline, a public burden, or a private despair, and it provides lenses through which to examine a social creation of the dependent status of older adults and the management of such dependency through public policies and social services (Minkler). Thus, critical theory proposes *praxis*, that is translating a theory into action for practical changes for a good old age.

It has been pointed out that critical theory has abstract dimensions and has yet to be well understood or often adopted in social gerontology (Hooyman & Kiyak, 2011; Philipson, 1996). However, the inclusion of critical theory thinking in aging studies, with critical emphasis on the subjective views of older adults and praxis for well-being in old age, expands the view that older adults, themselves, are also the constructing agents of their lives (George, 1996). Hence, it is applied in the study presented here.

The Conceptual Framework of the Study

The primary goal of this study is to explore psychological well-being (happiness, depressive symptomatology, and anxiety) among older adult age groups (the soon-to-be-old, the young-old, and the old-old) living in the community. The study postulates that all the factors derived from the literature and described below will explain variance in later-life psychological well-being as measured by happiness, depressive symptomatology, and anxiety, each of which is

an important indicator of psychological well-being in old age.

It has been stated that in contemporary gerontology, studies on the well-being of older adults are largely empirically, rather than theoretically, driven (Bengtson, Burgess, & Parrott, 1997). In contrast, for this study the above theoretical perspectives guide the empirical findings from the literature on psychological well-being in old age and its predictors to create the conceptual framework presented in Figure 3.2. As reviewed, psychological well-being in later life, due to the multidimensionality of its construct, is complicated and better explained by a combination of theories rather than a single theory alone. It is expected that the combined adoption of the above theoretical perspectives will contribute to a better understanding of psychological well-being among older adults, each compensating for and enhancing the other.

The stress and coping model provides the primary theoretical base of this study. This model indicates that peoples' psychological well-being is influenced by stress and their coping response, which is shaped both by a person's own resources and by those of his or her environment (Lazarus & Folkman, 1984). This model categorizes a variety of factors associated with psychological well-being that are noted in the literature review. In the current study, as seen in Figure 3.2., the **first** category includes a variety of socio-demographic factors: gender, race, marital status, living arrangement, and education. The **second** category adds as covariates the respondent's previous levels of psychological well-being: i.e. happiness, depressive symptomatology, and anxiety in 1995. The **third** category incorporates various stress factors found in the literature including: perceived health, physician use, functional limitations, financial difficulties, and stressful life events. The **fourth** category presents respondent's personal and environmental coping resources. The former includes sense of control (external locus of control and internal locus of control) and the latter includes health insurance, personal income, and

social support (perceived social support and social contact). Thus, the stress and coping model upholds a holistic approach to explain psychological well-being by embracing various predictors in multiple domains.

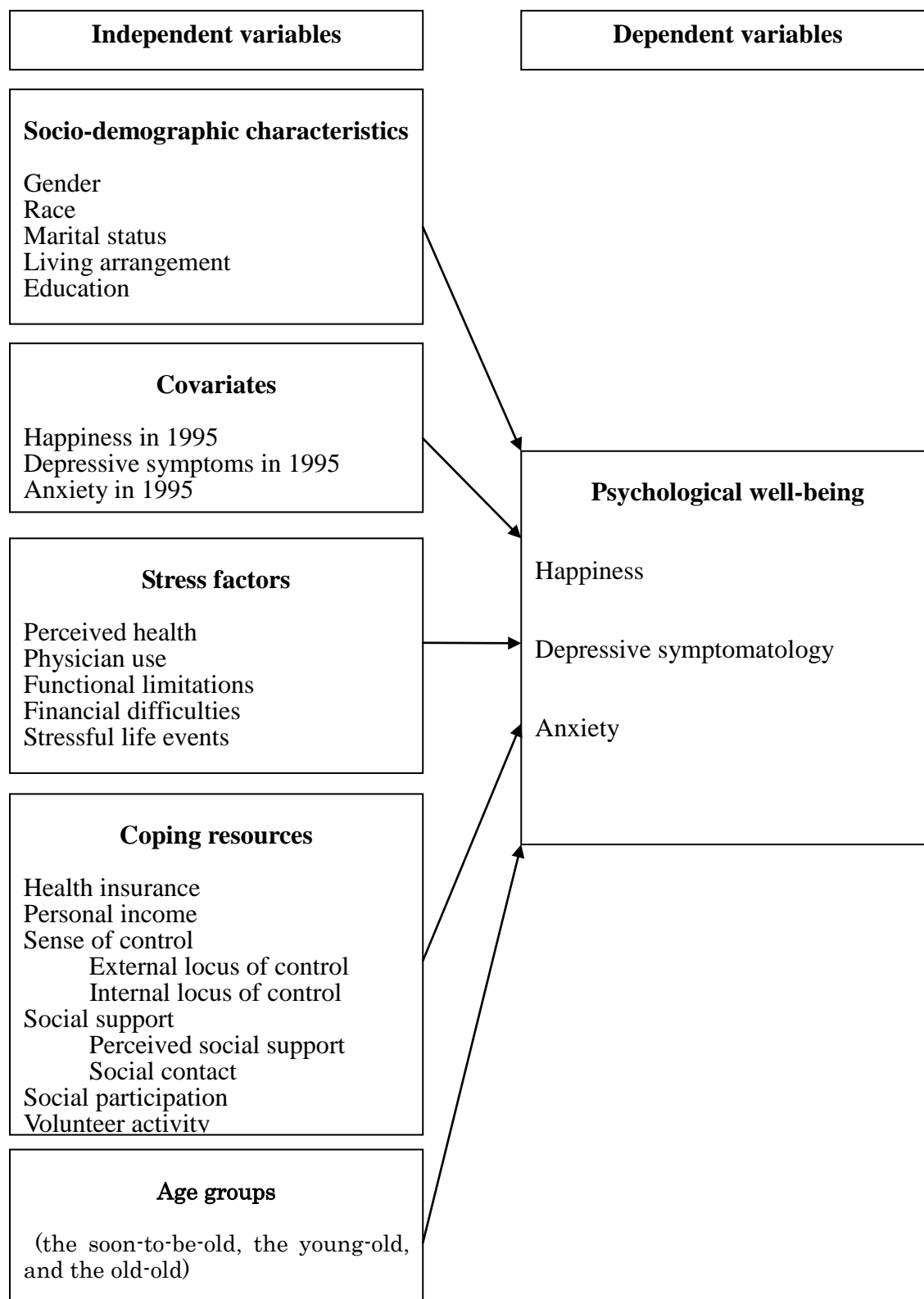
Socio-emotional selectivity theory proposes the goal reprioritizing process, in which aging individuals reorganize goal hierarchies and attach more importance to emotionally meaningful goals than other goals (Carstensen, Fung, & Charles, 2003). This proactive goal change explains how older individuals reorganize the conception of their psychological well-being. Inspired by socio-emotional selectivity theory, the research presented here added social participation and voluntary activities to coping resources as they may bear emotional meanings to proactive older individuals.

With regard to age effects on psychological well-being, the literature review yields inconsistent findings on the association of age with older adult's well-being. These findings summarized in Chapter 2 suggest further studies are needed to understand age effect on psychological well-being in older adults. As stated, older adults are a heterogeneous population with a wide age range from 65 to over 100. The life course perspective urges the significance of examining how living in different historical times leads to variations in life pathways and expectations and impacts people's well-being. Therefore, from this perspective, chronological age is an important factor to consider. Based on the life course perspective, this researcher was inspired to examine variations in psychological well-being and its predictors across three age groups that also involve the characteristics of different generational cohorts: the soon-to-be old (Baby Boomers growing up during unprecedented prosperity and affluence following World War II) (Egri & Ralston, 2004), the young-old (the Silent Generation growing up during the Greatest Depression and World War II) (Ibid), and the old-old (the Greatest Generation having lived

through the Great Depression and fought in World War II, parents of the Baby Boomers) (O'Donnell, 2005; Yang, 2007). Finally, critical theory emphasizes the importance to include study respondents' subjective emotional and intellectual components of their psychological well-being. The present study focuses on happiness, depressive symptomatology, and anxiety as the indicators of psychological well-being. That said, motivated by critical theory this study does not attempt to define psychological well-being as more happiness, less depressive symptomatology and/or less anxiety. Rather, how each participant's well-being is defined is left open to them.

As discussed above, the conceptual framework of this study was developed by the stress and coping model, socio-emotional selectivity theory, the life course perspective, and critical theory as found in Figure 3.2 below. Employing these model and theories, the research questions and hypotheses of this study are presented in the next section.

Figure 3.2. Conceptual Framework of the Study of Psychological Well-being among Three Age Groups of Older Adults Living in the Community



Research Questions

Within the context of the literature review and the conceptual framework presented in the previous section, this study examined the following research questions:

1. Do socio-demographic characteristics, stress factors, and coping resources differ among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older)?
2. Are there differences in the level of psychological well-being (happiness, depressive symptomatology, and anxiety) among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older)?
3. What is the unique effect of age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) in predicting psychological well-being (happiness, depressive symptomatology, and anxiety) after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources?
4. What are the joint effects of age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) and stress factors, and of age groups and coping resources in predicting psychological well-being (happiness, depressive symptomatology, and anxiety) after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources?
5. Do the predictors of psychological well-being (happiness, depressive symptomatology, and anxiety) differ among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older) under the assumption that significant joint effects between age groups and stress factors and age groups and coping resources are found?

Hypotheses

Based on the above research questions and the literature review, the following hypotheses were tested:

1. Socio-demographic characteristics, stress factors, and coping resources differ among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older).
2. There are differences in the level of psychological well-being (happiness, depressive symptoms, and anxiety) among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older).
3.
 - a) Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) have a unique effect in predicting **happiness** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.
 - b) Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) and stress factors and age groups and coping resources have a joint effect in predicting **happiness** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.
4.
 - a) Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) have a unique effect in predicting **depressive symptomatology** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.
 - b) Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) and stress factors and age groups and coping resources have a joint effect in predicting **depressive symptomatology** after controlling for socio-demographic

characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.

5. a) Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) have a unique effect in predicting **anxiety** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.

b) Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) and stress factors and age groups and coping resources have a joint effect in predicting **anxiety** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.

6. a) The predictors of happiness, a dimension of psychological well-being, differ among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older) under the assumption that significant joint effects between age groups and stress factors and age groups and coping resources are found.

b) The predictors of depressive symptomatology, a dimension of psychological well-being, differ among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older) under the assumption that significant joint effects between age groups and stress factors and age groups and coping resources are found.

c) The predictors of anxiety, a dimension of psychological well-being, differ among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older) under the assumption that significant joint effects between age groups and stress factors and age groups and coping resources are found.

In summary, despite losses and declines experienced in an aging process, there is abundant evidence that older adults can retain and even enhance their psychological well-being. One rationale for such evidence is that older adults can adequately cope with age-related stress. Additionally, older adults, compared to younger adults, are likely to focus on more subjective inner experience (introversion) than external world (extroversion) and proactively choose emotionally meaningful goals and subjective planning as suggested by socio-emotional selectivity theory (Fung, 2005). Modifying goals toward subjectively meaningful ones by proactive choice implies positive development and enlightens psychological well-being in old age. An understanding of subjective perceptions of psychological well-being can be enhanced by critical theory, which also advocates for a positive vision for old age. This theory encourages the importance to consider aging people's subjective perspectives in discussing policies and programs for them. Again, socio-emotional selectivity theory suggests what is desirable in one life stage may change in another and the conceptions of psychological well-being will do so accordingly. In this study of cross-sectional design, changes in the conceptions of well-being may be inferred by comparing the three age groups of the soon-to-be old, the young-old, and the old-old, as inspired by the life course perspective. What is unique to the conceptual framework, research questions, and hypotheses presented above is to gain a comprehensive understanding of older adults' psychological well-being and policy and programs implications for a good old age rather than dependency in later life. The next section will explain the methodology of conducting the study.

4. METHODOLOGY OF THE STUDY

This chapter presents the methodology of the study including the data source and the sample of the study along with the measures of variables employed in this study's analyses.

Data Source and Sample

Data Source

The data for this study of secondary data analysis were derived from the 1995 data¹ (Wave I, N=2,593) and the 2001 data² (Wave III, N=1,441) of the Aging, Status, and Sense of Control (ASOC)³ study using a national United States sample. The 2001 data (Wave III) was utilized as the base of the statistical analyses of this study. The 1995 data (Wave I) was used to control for psychological well-being status in 1995 as covariates (independent variables). The ASOC study was conducted by J. Mirowsky and C. E. Ross as principal investigators in 1995, 1998, and 2001 to examine the relationships between age and changes in participants' sense of control over the life course. Participants were questioned about their physical health (including activities of daily living such as shopping, walking, and doing housework, medical conditions such as heart disease, high blood pressure, diabetes, arthritis or rheumatism, and osteoporosis) and their mental health (including difficulties staying focused, feelings of sadness or anxiety, feelings of happiness, and enjoyment of life). Participants were also queried about their health behaviors (including use of medical services, insurance coverage, and use of prescription medications) and sense of control over their lives (including social support and participation and

¹ The 1995 data (Wave I) was used to analyze the covariates of psychological well-being in 1995 (independent variables).

² The 2001 data (Wave III) was used as the base of statistical analyses.

³ For additional information on this data set, please visit the website of the Inter-University Consortium for Political and Social Research, Description and Citation – Study No. 3334 (<http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/03334/detail>).

history of adversities such as unemployment and times without enough money for clothes, food, bills, or other necessities). ASOC contains longitudinal survey data consisting of the first, second, and third waves of interviews conducted in 1995, 1998, and 2001 respectively. The same questions were asked in these three waves.

This panel design national database contains a probability sample of English-speaking persons in the United States born between 1903 and 1977 (ages 18 and older) with an over-sampling of people aged 60 and older. The data was collected by telephone interviews. However, the information on interviewers and episode of time is unknown. ASOC study was funded by the National Institute on Aging, the National Institutes of Health, the United States Department of Health and Human Services.

This ASOC dataset was selected for this study of psychological well-being of older adults living in the community because it contains psychological well-being variables that explain happiness, depressive symptomatology, and anxiety as well as various stress and coping variables that fit the stress-coping model, a conceptual framework of this study. The probability sampling of English-speaking non-institutionalized adults with oversampling of persons aged 60 in this dataset was another rationale for use in this study. This ASOC database is most applicable for answering this researcher's study questions on psychological well-being among the soon-to-be-old, the young-old, and the old-old living in the community and stress factors and coping resources that impact these groups' psychological well-being.

Sub-samples of the Study

This study explored psychological well-being by cross-section among three age groups of the soon-to-be-old, the young-old, and the old-old living in the community. It also explored factors associated with the sample's psychological well-being. For the purpose of this

cross-sectional study reported here, this investigator selected for analyses the sub-samples of the soon-to-be-old (born between 1937 and 1951, aged 50-64 in 2001, n=219), the young-old (born between 1927 and 1936, aged 65-74 in 2001, n=271), and the old-old (born in 1926 and before, aged 75 and over in 2001, n=256). In defining the older population, the U.S. government uses the age of 65 as a chronological marker (Administration on Aging, 2010). In gerontological research, it is also conventional to identify the subgroups of this older population such as the young-old (ages 65-74), the old-old (ages 75-84), and the oldest-old (ages 85 and over) (Hooyman & Kiyak, 2011). That said, the age ranges of and the terms to describe these subgroups vary across research depending on gerontologists' study purposes and perspectives (Cooley, Dettch, Harper, Hinrichsen, Lopez, & Molinari, 1998). Accordingly, this study categorized the older sample into the subgroups of the young-old (ages 65-74) and the old-old (ages 75 and over). Since the number of study participants aged 85 and over (n=58) are limited in this database, subjects in this age range were combined into the old-old group for the purpose of data analysis. In considering policies and programs for the aging society, it is also essential to include those whose entry to old age is imminent. Living in different historical times leads to variations in life experiences and societal expectations across these aging and aged cohorts (Hardy, 1997; Hareven & Adams, 1982). Thus, in addition to the current older population, this study examines the soon-to-be-old, including Baby Boomers who present a distinct profile from preceding generations via factors such as greater women's engagement in the labor force and greater heterogeneity in marital status (e.g., more never-married and more divorced) (Cooney & Dunne, 2001). Based on these demographic variations, this study adopted an approach of a three age group comparison, having the soon-to-be-old as the reference group.

Measures

Based on the literature review and the conceptual framework presented in the previous chapters, measures were selected from the 1995 dataset (Wave I) and the 2001 dataset (Wave III) of the Aging, Status, and Sense of Control (ASOC) study that best fit the conceptual framework for this study found in Figure 3.2 (page 65). These measures include factors representing psychological well-being along with predictors from the stress and coping model (Lazarus & Folkman, 1984) reinforced by socio-emotional selectivity theory (e.g., Carstensen, Fung, & Charles, 2003), the life course perspective (e.g., Bengtson, Burgess, & Parrott, 1997), and critical theory (e.g., Cole, 1993). All the outcome/dependent and predictor/independent variables selected for this study and their operational definitions are presented in this section.

Dependent Variables of the Study

Psychological well-being is a multidimensional construct that encompasses a broad range of studies addressing people's quality of life (Kozma, Stones, & McNeil, 1991). Researchers studying psychological well-being have adopted a variety of meanings and attributes synonymous with dimensions of psychological well-being. These variations in operationalizing this construct depend on the researchers' philosophical, conceptual, and methodological orientations (Diener, Scollon, & Lucas, 2003; Kozma et al.). To this end, researchers have subsumed a various set of constructs, such as happiness, life satisfaction, adjustment, and affect that are mutually related but conceptually independent.

The study of psychological well-being in old age reported here focuses on happiness, depressive symptomatology, and anxiety as the measurable dimensions of psychological well-being. These dependent variables are measured respectively by a composite of self-reports asking how many of the past seven days a respondent had each of the feelings listed as reviewed

in the following and as derived from ASOC 1995 data (Wave I) and 2001 data (Wave III). Table 4.1 contains the operational definitions for these three dependent measures construction of which is detailed below.

Among the attributes of psychological well-being that have been studied, Kozma et al. (1991) point out that **happiness** is one of the oldest that has long preoccupied human thoughts as the meaning of life. These authors go on to describe five approaches to identify the properties of psychological well-being including happiness: the bottom-up approach (happiness is understood as an outcome of more concrete, lower-order predictors or precursors such as many happy moments), the top-down approach (the happy core or global happiness determines specific satisfaction with health, finances, etc.), personality approach (happiness is determined by certain personality traits), telic approach (happiness is achieved when goals, needs, or desires are satisfied), and judgmental approach (happiness is attained through a comparison between present conditions and certain standards such as the past). In exploring happiness for the purpose of the study reported here, the bottom-up approach that incorporates the indices of the number of happy and enjoyable days to rate life in general is used. These two items are also among 20 items contained in the standardized depression scale, *the Center for Epidemiologic Studies Depression Scale (CES-D)* developed by the National Institute of Mental Health (NIMH)⁴. The psychometric adequacy of these simple measures has been well documented in cross national studies (Yang, 2008). In the present study, happiness is measured by a composite score of the number of days each of the following two happy feelings was reported by a respondent in the past seven days: feeling happy and enjoying life. As noted in Table 4.1, the interval range for this variable is 0

⁴ CES-D was developed to detect major or clinical depression in community-dwelling adolescents and adults. For additional information, please visit the website of MedEdPPD.org, an educational website developed with the support of the National Institute of Mental Health (NIMH) (<http://www.mededppd.org/cesd.asp>).

(neither item is reported on any day) to 14 (both items are reported on each of the seven days).

Gerontology literature shows a mounting consensus that the construct of psychological well-being can be best understood when both positive and negative dimensions of the construct are investigated. Bradburn (1969) indicates positive and negative affect as two uncorrelated facets of psychological well-being and conceptualizes the construct as the balance of these two. Bradburn discusses that high positive affect does not necessarily mean lowered negative affect and vice versa. Lawton (1994) endorses Bradburn's discussion and introduces a "dual-channel" conception, which explains the independency of positive and negative dimensions of the construct, pointing that differing factors lead to each dimension.

This study focuses on **depressive symptomatology** to denote the negative dimension of psychological well-being. In literature using many different terms such as depressive mood and psychological distress, cumulative evidence is available of the prevalence of depression among the older generation (Baum & Boxley, 1983; Hooyman & Kiyak, 2011; Mui, 1996b, 1996c; Oldehinkel, van den Berg, Bouhuys, & Ormel, 2003; Roberts, Kaplan, Shema, & Strawbridge, 1997). This study adopts depressive symptomatology as the aggregate construct encompassing any form of depressive psychological status including clinical depression. In this study, depressive symptomatology is assessed by a composite score of the number of days each of the following five depressive feelings was reported by a respondent in the past seven days: could not get going, having trouble concentrating, feeling sad, feeling lonely, and feeling could not shake the blues. These items were consistent with those included in the standardized depression scale of the *Center for Epidemiologic Studies Depression Scale (CES-D)* developed by the National Institute of Mental Health (NIMH). As noted in Table 4.1, the range of this interval measure goes from 0 (no depression feeling on any of the seven days) to 35 (all five depression feelings on all

seven days).

Anxiety has been studied as another significant dimension of psychological well-being in old age (e.g., Beekman, Beurs, van Balkom, Deeg, van Dych, & van Tilburg, 2000; Kvaal, McDougall, Brayne, Matthews, & Dewey, 2008). Any individual presents symptoms of anxiety at times (Verof, Douvan, & Kulka, 1981) when he or she faces threatening situations and coping with life problems (Lenze, 2002). Considering that an occasional encounter with anxiety is natural in life, this study also includes anxiety as a dependent variable. For this purpose, anxiety is measured by a composite score of the number of days each of the following three anxious feelings was reported by a respondent in the past seven days: worrying about little things, feeling tense or anxious, and feeling restless. As with the previous outcome measures, the range for this interval measure is 0 (no item on any day) to 21 (all three items on all seven days) (See Table 4.1.).

In gerontology research, these three constructs have been studied as instruments that provide meaning to psychological well-being. Evidence is available to confirm empirical correlations of these constructs with psychological well-being although these constructs reflect substantive individual, different dimensions in psychological well-being. As explained above, these three dimensions are explored using a self-report of experiencing respective feelings. This is done as a way to enhance the understanding of respondents' subjective feelings about and experience of each construct.

Table 4.1. Dependent Variables and Operational Definitions: Psychological Well-being in 2001

Dependent variable	Operational definition
Happiness (2001)	A composite score of the number of days each of the following two feelings was reported by a respondent in the past seven days (range = 0 - 14): 1. Feeling happy (0-7) 2. Enjoying life (0-7)
Depressive symptomatology (2001)	A composite score of the number of days each of the following five feelings was reported by a respondent in the past seven days (range = 0 - 35): 1. Feeling could not get going (0-7) 2. Having trouble concentrating (0-7) 3. Feeling sad (0-7) 4. Feeling lonely (0-7) 5. Feeling could not shake the blues (0-7)
Anxiety (2001)	A composite score of the number of days each of the following three items was reported by a respondent in the past seven days (range = 0 - 21): 1. Worrying about little things (0-7) 2. Feeling tense or anxious (0-7) 3. Feeling restless (0-7)

Note. **Happiness** was asked by a question of “on how many of the past 7 days have you felt happy and/or enjoyed life?”

Depressive symptomatology was asked by a question of “on how many of the past 7 days have you felt you just couldn’t get going, had trouble keeping your mind on what you were doing, felt sad, felt lonely, and/or felt you couldn’t shake the blue?”

Anxiety was asked by a question of “on how many of the past 7 days have you worried a lot about little things, felt tense or anxious, and/or felt restless?”

Independent Variables of the Study

This study of psychological well-being among older adults was guided by the stress and coping model and supplemented by socio-emotional selectivity theory, the life course perspective, and critical theory, adjusting for previous psychological well-being status at the baseline of 1995. The independent variables examined in the study were derived from the extant literature on psychological well-being in old age and the 1995 data (Wave I) and 2001 data (Wave III) of the Aging, Status, and Sense of Control (ASOC) study. In accordance with the above study

framework as outlined in Chapter 3 and found in Figure 3.2 (p. 65), these independent variables were conceptually grouped into four categories: socio-demographic characteristics, psychological well-being in 1995, stress factors, and coping resources. The operational definitions of these variables are contained in Tables 4.2 (socio-demographic characteristics), 4.3 (psychological well-being in 1995), 4.4 (stress factors), and 4.5 (coping resources).

Socio-demographic characteristics.

Socio-demographic characteristics examined in this study are age, gender, race, marital status, living arrangement, and education (see Table 4.2). As described, this study compared three **age** groups of the soon-to-be-old (ages 50-64 at Wave III), the young-old (ages 65-74 at Wave III), and the old-old (ages 75 and over at Wave III). The soon-to-be-old, or the youngest respondents, are the reference group in the analyses. The conceptualization of this sub-grouping is described in the previous section.

Dummy coding is used for other nominal demographic characteristics. This coding allows for entrance of these variables into multivariate analysis. Given the documented effects on **gender** on psychological well-being among older adults (e.g., Burnette & Mui, 1997; Pinquart & Sörensen, 2001; Tran, 1997), gender is included as a dichotomously-coded dummy variable with men (1) as the comparison group. **Race** is examined as a dichotomous variable of white (1) and non-white (0). For this measure white, a dominant group in the sample, is the comparison group with the non-white group including all black or African American, Asian or Pacific Islander, native American or Alaskan native, or other respondents. In this study, the non-white category combines all races other than white. This is based on the finding from the preliminary univariate analysis that the proportion of these non-white races is very low in the sample. **Marital status** is also dichotomized. For this measure married respondents (1), including those living together but

not married, are the dominant group. The non-married respondents (0) include all those who reported being widowed, divorced, separated, or never-married. **Living arrangements** have been found to be associated with psychological well-being in later life (e.g., Burnette & Mui, 1997; Zhang & Liu, 2007). In line with these studies, this study codes living arrangements as a dichotomized variable between living alone (0) and living with others (1). Finally, literature has identified **education** as a significant predictor of psychological well-being in old age (e.g., Burnette & Mui, 1994; Murrell, Salsman, & Meeks, 2003). In this study, an education variable was categorically coded as having less than high school education, high school education, and post high school education. Having high school education is entered as reference.

Table 4.2. Independent Variables and Operational Definitions: Socio-demographic Characteristics

Socio-demographic characteristics	Operational definition
Age groups	Three age groups were coded categorically based on age in 2001: 1 = The soon-to-be-old (ages 50-64) 2 = The young-old (ages 65-74) 3 = The old-old (ages 75 and over)
Gender	0 = Female 1 = Male
Race	0 = Non-white 1 = White
Marital status	0 = Not married 1 = Married
Living arrangement	0 = Living alone 1 = Living with others
Education	1 = Less than high school 2 = High school 3 = Post high school

Psychological well-being in 1995.

The purpose of the proposed study is to explore psychological well-being outcomes in

2001. However, psychological well-being status in previous stages may affect psychological well-being at later stages. Accordingly, this study enters **psychological well-being variables (happiness, depressive symptomatology, and anxiety) in 1995** as covariates from the 1995 data (Wave I, N=2,593) of the Aging, Status, and Sense of Control (ASOC) database and controls for those variables in multiple regression analyses. The operational definitions of the covariates are described in Table 4.3 just like the outcome measures are described in Table 4.1.

Table 4.3. Independent Variables and Operational Definitions: Psychological Well-being in 1995

Psychological well-being in 1995	Operational definition
Happiness (1995)	A composite score of the number of days each of the following two feelings was reported by a respondent in the past seven days (range = 0 - 14): 1. Feeling happy (0-7) 2. Enjoying life (0-7)
Depressive symptomatology (1995)	A composite score of the number of days each of the following five feelings was reported by a respondent in the past seven days (range = 0 - 35): 1. Feeling could not get going (0-7) 2. Having trouble concentrating (0-7) 3. Feeling sad (0-7) 4. Feeling lonely (0-7) 5. Feeling could not shake the blues (0-7)
Anxiety (1995)	A composite score of the number of days each of the following three items was reported by a respondent in the past seven days (range = 0 - 21): 1. Worrying about little things (0-7) 2. Feeling tense or anxious (0-7) 3. Feeling restless (0-7)

Note. **Happiness** was asked by a question of “on how many of the past 7 days have you felt happy and/or enjoyed life?”

Depressive symptomatology was asked by a question of “on how many of the past 7 days have you felt you just couldn’t get going, had trouble keeping your mind on what you were doing, felt sad, felt lonely, and/or felt you couldn’t shake the blue?”

Anxiety was asked by a question of “on how many of the past 7 days have you worried a lot about little things, felt tense or anxious, and/or felt restless?”

Stress factors.

Pivotal to the stress and coping model (Lazarus & Folkman, 1984) are measures of both these concepts. The stress factors included in this study are perceived health, physician use, functional limitations, financial difficulties, and stressful life events. The operational definitions of these variables are explained in Table 4.4.

A solid association of physical health with the psychological well-being in old age has been found in the extant literature (e.g., Burnette & Mui, 1994; Harris et al., 2003; Mui, 2001; Mui & Burnette, 1996). Burnette and Mui (1994) found multiple health factors, such as more ADL impairments and physical illnesses, less perceived health, and more ADL and IADL needs, predicted depressive symptoms among frail elderly living alone. An individual's physical health can be assessed by both objective means, such as physician visits and readings of measurement devices, and subjective means, such as the respondent's ratings of perceived health (Lawton, 1984). Spiro and Bossé (2000) stress the significance of the perceived impact of health on an individual's well-being. Based on these views, the current study examines both objective and subjective health predictors including attributes of perceived health, physician use, and functional limitations. **Perceived health** is measured by a subjective self-rating of a five-point ordinal health measure from very poor health (5) to very good health (1) with a lower score indicating better perceived health. **Physician use** is assessed objectively as a categorical interval measure of the times the respondent talked to or saw a doctor during the past twelve months using four categorical levels. Originally, this was a continuous variable reflecting the number of physician visits during the past twelve months. However, individuals can hardly recall the exact number of seeing or talking to a medical doctor in the past year. Thus, this variable was re-coded as a categorical one providing time ranges for the respondent to choose. This way, a risk of

incorrect answer will be minimized. **Functional limitations** are assessed by an interval measure composite score of the number of everyday activities the respondent reported having difficulties with (range 0-7). These seven yes=1 and no=0 items include: climbing stairs, kneeling or stooping, lifting 10 pounds or less, doing household work, shopping or getting around, seeing, and hearing.

Financial conditions are found to impact psychological well-being in old age (Burnette & Mui, 1997; Tran, 1997). Financial difficulty can also be a significant cause of stress for aging and elderly individuals (Francoeur, 2002; Kahn & Pearlin, 2006). Therefore, the current study includes **financial difficulties** as a stress predictor. This predictor is operationalized as a composite score of yes (1) or no (0) responses to three types of financial troubles during the past twelve months: trouble paying for household costs, trouble paying for medical care, and trouble paying the bills (range = 0 - 3).

The gerontological literature has established a significant link between psychological well-being and **stressful life events** (e.g., Beekman et al., 2000; Mui, 1998, 2001; Mui & Kang, 2006; Mui, Kang, Chen, & Domanski, 2003). In this study, stressful life events are operationalized as a composite interval score of how many of five events ever occurred in the past. Scored as 1 for yes the stressful life event attributes are: ever had home broken into; ever been attacked or assaulted; ever been in a major disaster; ever unemployed for 6 months or more; and ever not had enough money for necessities (range = 0 – 5).

Table 4.4. Independent Variables and Operational Definitions: Stress Factors

Stress factors	Operational definition
Perceived health	A self-rating of respondent health using a five-point ordinal measure: 1 = Very good 2 = Good 3 = Satisfactory 4 = Poor 5 = Very poor
Physician use	The times the respondent talked to or saw a doctor during the past twelve months grouped into a categorical ordinal measure: 0 = Never, 1 = 1-10 times 2 = 11-30 times 3 = 31 times or more
Functional limitations	A composite interval score of the responses to the following seven everyday tasks of having difficulty (0 = no, 1 = yes, range = 0-7): 1. Climbing stairs 2. Kneeling or stooping 3. Lifting 10 pounds or less 4. Doing household work 5. Shopping or getting around 6. Seeing 7. Hearing
Financial difficulties	A composite interval score of the responses to the following three attributes during the past twelve months (0 = no, 1 = yes, range = 0-3): 1. Trouble paying for household costs (e.g., food and clothes) 2. Trouble paying for medical care 3. Trouble paying the bill.
Stressful life events	A composite interval score of the responses to the following five items (0 = no, 1 = yes, range = 0-5): 1. Ever had home broken into 2. Ever been attacked or assaulted 3. Ever in a major disaster 4. Ever unemployed for six months or more 5. Ever not had enough money for necessity

Coping resources.

In accordance with the stress and coping model, respondents' coping resources are the final category of independent variables analyzed in this study. Coping resource variables are

health insurance, personal income, sense of control (external locus of control and internal locus of control), social support (perceived social support and social contact), social participation, and volunteer activity. The operational definitions of these variables are contained in Table 4.5.

As stated in the stress-factor section, health has a significant impact on well-being in old age. Although research on the effect of health insurance on psychological well-being is limited, it has been found that health insurance including Medicare and Medicaid contributes to the well-being of older adults (Gaskamp, 2004; Schulder, 1985). Therefore, this study explores the effect of **health insurance** as a tool to cope with health problems as people age. The current study examines the effect of the availability of any health insurance on older adults' psychological well-being by a simple yes (1) or no (0) response to whether the respondent has health insurance.

Personal income has demonstrated important associations with psychological well-being among older adults (Gander, 1991; George, 1992; Kushman & Lane, 1980). Hsieh (2005)'s logistic regression study demonstrated that income is one of eight important life domains for adults age 50 and older. In the research of divorced older men and women, Gander's regression analysis evidenced present income to be the best predictor of positive well-being for both older men and women. On the other hand, Kushman and Lane (1980)'s multivariate analysis showed that income is positively related to the psychological well-being of older adults living with their spouses but not of older adults either living with someone other than their spouses or living alone. They suggest that although the manner in which more income is utilized depends on the type of living arrangement, it is used to attain more independent living. In accordance with this discussion, the present study includes personal income in coping resource allowing older adults to maintain independent living in the community. For the purpose of this study, as indicated in

Table 4.5, annual personal income (the respondent's own wages, salary, or other sources before taxes in 2000) is measured using an ordinal measure with four category attributes that correspond to low (less than \$10,000), lower-middle (10,000 or less than \$30,000), upper-middle (\$30,000 or less than \$50,000), and high (\$50,000 or more) income levels.

The psychological benefits of preserving **sense of control** in old age are well documented in the literature (e.g., Brandtstädter & Rotherrmund, 1994; Brown, 2007; Housley, 1992; Keith, 1993; Krause, 1987; Menec & Chipperfield, 1997). Krause (1987) suggests that sense of control can be an important psychological coping resource. The Aging, Status, and Sense of Control (ASOC) database used for the current study contains multiple data on sense of control. Therefore, a factor analysis was conducted using Principal Components Analysis with Varimax Rotation to condense eight sense of control variables in the original dataset into fewer variable factors that retain a common element or common theoretical construct. Per procedure, the resulting new variable factors are retained only if their Eigenvalues are greater than 1.0 (Pagano, 2001). Based on this statistical analysis, two new factors were conceptualized and tested for reliability using the Cronbach alpha: the first factor of 6 items reflects **external locus of control** ($\alpha = .69$) and the second factor of two items reflects **internal locus of control** ($\alpha = .75$). Since each of the six items of external locus of control were answered by dichotomized responses (yes or no), those six items were summed to create a composite score (range = 0-6). Responses to each of two items of internal locus of control were also dichotomized (yes or no) and summed to create a composite score (range = 0-2).

Social gerontology research has evidenced the importance of **social support** for psychological well-being in older age. As noted in Chapter 2, the construct of social support is multidimensional and can be measured in many ways (Thompson & Krause, 1998). When

examining this coping measure, its quality and quantity dimensions indicate different effects of social support on people's well-being (Beckman, 1981). Therefore, the present study examines social support from both the quality and quantity perspectives utilizing respectively measures of **perceived social support** and **social contact**. Perceived social support measures the quality dimension of social support by examining the availability of others from whom the respondents can seek support when needed. This variable is operationalized by a composite score of yes/no responses to four items (range = 0-4) reflecting the availability of someone who they can turn to, who they talk to, who help them, and who take care of them. Social contact examines the quantity aspect of social support. This variable is measured by the times the respondents visit friends and relatives including neighbors or attends social lunches with co-workers around the time period of the survey.

Social participation predicts psychological well-being among older adults (Jang, Mortimer, Haley, & Graves, 2004; Lawton, 1994; Nimrod & Adoni, 2006; Zimmer, Hichkey, & Searle, 1995). Lawton evidenced high scores in positive affect among high activity participators. Zimmer et al. examined the effects of various activity types such as social activities (including attending clubs and community centers and volunteer work), physical activities (including walking and shopping), and solitary activities (including listening to music and watching television) on well-being. These researchers found minimal impact of physical and solitary activities but substantial impact of social activities. Based on this finding, the current study operationalized social participation as a composite yes (1) or no (0) reply to whether respondents ever participate in any of the following: community services, neighborhood activities, or political organizations.

Related to social participation, engagement in **volunteer activities** is another

significant predictor of positive well-being in later life (e.g., Greenfield & Marks, 2004; Greenfield & Marks, 2007; Jirovec & Hyduk, 1998; Morrow-Howell, Hinterlong, Rozario, & Tang, 2003; Newman, Vasudev, & Onawola, 1985; Pushkar, Reis, & Morros, 2002). Reflecting significant findings on volunteering, the current study includes volunteer activities as a measure of psychological well-being among older adults. The study examines participation in volunteer activities as a binary variable (yes = 1 and no = 0), asking if the participants are involved in volunteer work for a church, hospital, library, scouts, or other organizations at the time period of the survey.

Table 4.5. Independent Variables and Operational Definitions: Coping Resources

Coping resources	Operational definition
Health insurance	<p>Respondents were asked whether or not they have health insurance coverage to create a dichotomous binary measure:</p> <p>0 = No 1 = Yes</p>
Personal income	<p>An ordinal measure of respondents ranking of their annual personal income (own wages, salary, or other sources before taxes in 2000).</p> <p>1 = Less than \$10,000 2 = \$10,000 or less than \$30,000 3 = \$30,000 or less than \$50,000 4 = \$50,000 or more</p>
Sense of control	<p>Use of Principal Component Factor Analysis resulted in the creation of two new <i>sense of control</i> variables. Attributes in each were grouped, scored and combined to create interval measures of <i>external locus of control</i> and <i>internal locus of control</i>.</p> <p>Composite indicator of respondent's reply to six <i>external locus of control</i> attributes (range = 0-6):</p> <ol style="list-style-type: none"> 1. Respondent has little control over bad things. <ul style="list-style-type: none"> 0 = Yes 1 = No 2. Respondent is often a victim of things the respondent cannot control. <ul style="list-style-type: none"> 0 = Yes 1 = No 3. Good things happen without planning a lot. <ul style="list-style-type: none"> 0 = Yes 1 = No 4. Good things happen mostly by luck. <ul style="list-style-type: none"> 0 = Yes 1 = No 5. Most problems are due to bad breaks. <ul style="list-style-type: none"> 0 = Yes 1 = No 6. Problems are caused by selfish, greedy, or mean people. <ul style="list-style-type: none"> 0 = Yes 1 = No

Table 4.5. Independent Variables and Operational Definitions: Coping Resources
(continued)

Coping resources	Operational definition
Sense of control (continued)	Composite indicator of respondent's reply to two <i>internal locus of control</i> attributes (range = 0-2): 1. Respondent decides how work or daily activities are to be done. 0 = No 1 = Yes 2. Respondent decides what work or daily activities are to be done. 0 = No 1 = Yes
Social support	Social support is operationalized using a measure for quality and a measure for quantity. Perceived social support (quality): An interval composite score of the responses to the following five items (0 = no, 1 = yes, range = 0-4): 1. Have someone to turn to when things get rough 2. Have someone to talk to 3. Have someone who helps me when needed 4. Have someone who takes care of me when sick Social contact (quantity): An interval measure of the times the respondent visits friends and relatives including neighbors or attends social lunches with co-workers around the time period of the survey: 0 = Never 1 = 1-5 times 2 = 6-10 times 3 = 11 or more times
Social participation	A binary measure of whether or not the respondent ever participate in community service, neighborhood, and/or political organizations: 0 = No 1 = Yes
Volunteer activities	A binary measure of whether or not the respondent participate in volunteer work for a church, hospital, library, scouts, or other organizations at the time period of the survey: 0 = No 1 = Yes

In summary, previous gerontology research has evidenced the significant impacts of all the independent variables described in this section on psychological well-being among older adults, although some inconsistent results have been observed across research. Findings from the present study can contribute to understanding what is associated with psychological well-being and provide some policy and program implications for enhancing psychological well-being among older adults. Additionally, the unique look at the three age groups examined in this study and within-group variations (gender and marital status differences) can advance understanding of variations in psychological well-being as people age. Such information will be useful in assisting policy makers, program planners, and social work practitioners to plan for our future aging society.

5. RESEARCH FINDINGS

Data Analysis Procedures

This study of psychological well-being among older adults living in the community (the soon-to-be-old aged 50-64, the young-old aged 65-74, and the old-old aged 75 and over) was analyzed using the following statistical procedures in SAS 9.1.3 statistical software. First, univariate analyses were conducted for descriptive analyses of the study sample, including percentages, means, and standard deviation statistics for all variables. Second, bivariate analyses were performed to generate the descriptive profiles of the three age groups of the soon-to-be-old, the young-old, and the old-old in the study sample. In this process, chi-square and one-way ANOVA statistics were employed to examine the proportions and means of profile attributes and explore differences in the profiles of these three age groups. In these preliminary analyses, principal component analysis was executed with an independent variable of multiple items to condense the data. Third, zero-order correlation analyses were employed among all the variables to determine the strength of association and to identify possible multicollinearity between the variables in the following pairings: (1) dependent variables and dependent variables; (2) independent variables and independent variables; (3) independent variables and dependent variables.

Following all these tests, multivariate analyses were performed to assess predictors of psychological well-being (happiness, depressive symptomatology, and anxiety) of the overall sample. In this multivariate fourth step in the data analysis, two models of additive multiple regressions and interactive multiple regressions were examined hierarchically. In the additive process, five categories of independent variables were entered into hierarchical regression analyses in the following order according to the study's conceptual framework (see Figure 3.2):

(1) socio-demographic characteristics; (2) the 1995 level of psychological well-being (happiness, depressive symptomatology, and anxiety); (3) stress factors; (4) coping resources; and (5) the age groups. This additive step examined the main effect of the variables in each of these five categories.

Following the additive regression analyses, interactive regression models were employed to examine the joint effects of stress factors by the age groups and coping resources by the age groups. In the interactive model process, the interaction terms of stress factors by the age groups and coping resources by the age groups were entered in the final, sixth step. The theoretical reasoning for these multivariate steps will be explained in the multivariate analyses section in this chapter. The next section presents the findings from the statistical analyses starting with a description of the study sample.

Description of the Study Sample

The sample for this study was 746 older adults in total consisting of 219 soon-to-be-old (ages 50-64), 271 young-old (ages 65-74), and 256 old-old (ages 75 and over). **Table 5.1** provides the socio-demographic characteristics of this study sample with Table 5.3 providing this same data sorted by the three age groups. The mean age of the total study sample was 69.8 years old with an age range of 50 to 98, and 61.5% were female. The racial make-up of the respondents was predominantly white with 91.6% white and 8.4% non-white (black or African American, Asian or Pacific Islander, native American or Alaskan native, or other). In terms of marital status, 56.9% were married, and 65.4% lived with others. Regarding education, 52.1% of the sample had post high school education, 34.2% had a high school diploma, and 13.7% had less than high school education.

Table 5.1. Socio-demographic Characteristics of All Older Adults Living in the Community (N=746)

Variable	Mean (SD) or percentage	Range or frequency
	<u>Mean (SD)</u>	
Age of total sample	69.82 (10.78)	50 - 98
	<u>%</u>	<u>n</u>
Gender		
Female	61.48	458
Male	38.52	287
Race		
White	91.62	678
Non-white	8.38	62
Marital status		
Married	56.91	424
Not married	43.09	321
Living arrangement		
Living with others	65.42	488
Living alone	34.58	258
Education		
Less than high school	13.73	102
High school	34.19	254
Post high school	52.09	387

Description of Psychological Well-being among the Study Sample

Table 5.2 shows the descriptive statistics of the overall psychological well-being of older adults living in the community. On average, older adults in this sample were happy, reporting an average ranking of 12.2 for happiness ($SD = 3.2$, range = 0 to 14). This distribution corresponds with low rankings for all respondents on depressive symptomatology ($M = 3.9$, $SD = 6.3$, range = 0 to 35) and on anxiety ($M = 4.2$, $SD = 5.2$, range = 0 to 21). These findings of high rankings on happiness and low rankings on both depression and anxiety demonstrate that overall, the psychological well-being of this study sample was good.

Table 5.2. Descriptive Statistics of the Psychological Well-being in 2001 among All Older Adults Living in the Community (N=746)

Psychological well-being indicators:		
The number of days each measure attribute was reported over 7 days (range)	Mean (SD)	Range
Happiness (2001)		
Felt happy	5.99 (1.79)	0-7
Enjoyed life	6.21 (1.69)	0-7
Composite score of 2 feelings over 7 days	12.16 (3.21)	0-14
Depressive symptomatology (2001)		
Felt could not get going	1.00 (1.92)	0-7
Had trouble concentrating	.83 (1.77)	0-7
Felt sad	.99 (1.82)	0-7
Felt lonely	.67 (1.71)	0-7
Felt could not shake the blues	.46 (1.38)	0-7
Composite score of 5 symptoms over 7 days	3.93 (6.27)	0-35
Anxiety (2001)		
Worried about little things	1.55 (2.31)	0-7
Felt tense or anxious	1.48 (1.92)	0-7
Felt restless	1.23 (1.96)	0-7
Composite score of 3 feelings over 7 days	4.24 (5.24)	0-21

Note. Means are reported as a composite score of the number of days a respondent reported each item that composes the indicator in the past seven days.

Happiness was asked by a question of “on how many of the past 7 days have you felt happy and/or enjoyed life?”

Depressive symptomatology was asked by a question of “on how many of the past 7 days have you felt you just couldn’t get going, had trouble keeping your mind on what you were doing, felt sad, felt lonely, and/or felt you couldn’t shake the blue?”

Anxiety was asked by a question of “on how many of the past 7 days have you worried a lot about little things, felt tense or anxious, and/or felt restless?”

Bivariate Analyses by Age Group

Socio-demographic Characteristics of the Soon-to-be-old, the Young-old, and the Old-old

Table 5.3 provides the profiles of the age groups of the soon-to-be-old, the young-old, and the old-old by presenting the mean age and the percentage distribution of other socio-demographic characteristics. Except for a variable of age, Chi-square statistics by age group were performed to examine statistically significant differences in socio-demographic characteristics among these three age groups.

Age. The mean age was 56.0 years ($SD = 4.27$) for the soon-to-be-old (age range 50-64), 70.3 years ($SD = 2.62$) for the young-old (age range 65-74), and 81.2 years ($SD = 4.82$) for the old-old (age range 75 - 98).

Gender. Female respondents composed the majority in any age group: 57.5% ($n = 126$) of the soon-to-be-old, 60.9% ($n = 165$) of the young-old, and 65.5% ($n = 167$) of the old-old. The Chi-square statistics revealed no statistically significant proportion differences among the age groups.

Race. White versus non-white (black or African American, Asian or Pacific Islander, native American or Alaskan native, or other) categorized the sample's racial background. Mostly white respondents composed each age group. Whites represented 88.9% of the soon-to-be-old ($n = 193$), 91.5% of the young-old ($n = 247$), and 94.1% of the old-old ($n = 238$). No statistically significant age group difference was found for race.

Marital status. The Chi-square statistic ($\chi^2 = 57.20$, $df = 2$, $p < .0001$) demonstrated that a significantly larger percentage of the youngest (soon-to-be-old) group (72.2%, $n = 158$) was married compared with the older groups (61.6% for the young-old [$n = 167$] and 38.8% for the old-old [$n = 99$]).

Living arrangement. Most of the soon-to-be-old (80.8%, n = 177) and the young-old (71.2%, n = 193) lived with others. By contrast, less than half of the old-old (46.1%, n = 118) lived with others. Chi-square statistics showed statistically significant age group difference in living arrangement ($\chi^2 = 69.25$, $df = 2$, $p < .0001$).

Education. The soon-to-be-old had achieved a higher level of education (62.6 % post high school, n = 137) than had the young-old (49.8% post high school, n = 134) or the old-old (45.5% post high school, n = 116). In fact, only 5.5% (n=12) of the soon-to-be-old had less than high school education as compared to 16.0% (n=43) for the young-old and 18.4% (n=47) for the old-old. Chi-square statistics revealed significant age group difference in education ($\chi^2 = 23.55$, $df = 4$, $p < .0001$). Further Chi-square analysis revealed that there was no significant difference in education between the young-old and the old-old (not shown in Table 5.3). Thus, the significant variance observed here is only between the soon-to-be-old “Baby Boomers” and the two older groups.

Table 5.3. Socio-demographic Characteristics by Age Group (N=746)
 (Values reported as percentage or mean with standard deviation)

	Soon-to-be-old d (Age 50-64) n=219	Young-old (Age 65-74) n=271	Old-old (Age 75-98) n=256	Total (Age 50 – 98) N=746
	Mean (SD)			
Age	56.0 (4.27)	70.3 (2.62)	81.2 (4.82)	69.8 (10.8)
	% (n)			
	29.36	36.33	34.32	100.00
	% (n)			
Gender				
Female	57.53 (n =126)	60.89 (n =165)	65.49 (n =167)	61.48 (n =458)
Male	42.47 (n =93)	39.11 (n =106)	34.51 (n =88)	38.52 (n =287)
Race				
White	88.94 (n =193)	91.48 (n =247)	94.07 (n =238)	91.62 (n =678)
Non-white	11.06 (n =24)	8.52 (n =23)	5.93 (n =15)	8.38 (n =62)
Marital status****				
Married	72.15 (n =158)	61.62 (n =167)	38.82 (n =99)	56.91 (n =424)
Not married	27.85 (n =61)	38.38 (n =104)	61.18 (n =156)	43.60 (n =321)
Living arrangement****				
Living with others	80.82 (n =177)	71.22 (n =193)	46.09 (n =118)	65.42 (n =488)
Living alone	19.18 (n =42)	28.78 (n =78)	53.91 (n =138)	34.58 (n =258)
Education^a****				
Less than high school	5.48 (n =12)	15.99 (n =43)	18.43 (n =47)	13.73 (n =102)
High school	31.96 (n =70)	34.20 (n =92)	36.08 (n =92)	34.19 (n =254)
Post high school	62.56 (n =137)	49.81 (n =134)	45.49 (n =116)	52.09 (n =387)

Note. Chi-square statistics were used to test proportion differences. **** $p < .0001$.

^aSignificant differences in education are found only between the soon-to-be-old and the two older groups.

Psychological Well-being in 1995 of the Soon-to-be-old, the Young-old, and the Old-old

Psychological well-being in 1995 (happiness in 1995, depressive symptomatology in 1995, and anxiety in 1995) was introduced into this study as a covariate to examine how the previous level of psychological well-being affected the current level of psychological well-being (happiness in 2001, depressive symptomatology in 2001, and anxiety in 2001) among the soon-to-be-old, the young-old, and the old-old. **Table 5.4** presents the results of one-way ANOVA statistics that tested statistically significant differences in the three 1995 psychological well-being covariates among the three age groups. The table contains the means of happiness in 1995, depressive symptomatology in 1995, and anxiety in 1995 of the soon-to-be-old, the young-old, and the old-old.

Happiness in 1995. The happiness covariate was measured by the total number of days in the seven days preceding the 1995 survey that the respondent felt happy and enjoyed life. A composite score was created for a variable of happiness in 1995 based on the number of days each of two feelings of “feeling happy” and “enjoying life” were reported by a respondent in the past seven days (range: 0 to 14).

Analyzing the two attributes in the happiness covariate, results reveal that older adults in all age groups felt happy in the past seven days in 1995 (Means = 6.02 for the soon-to-be-old, 6.19 for the young-old, and 6.30 for the old-old, range: 0-7) with no significant difference found among age groups. Between group findings indicate that the old-old had on average a significantly higher score of enjoying life compared to the soon-to-be-old (Means = 6.65 vs. 6.29, range: 0-7, $F = 3.58$, $df = 2$, $p < .05$). A covariate of overall happiness in 1995 was measured by a combination of feeling happy and enjoying life. With all age groups reporting a high level of overall happiness in 1995 (Means = 12.22 for the soon-to-be-old, 12.47 for the young-old, and

12.77 for the old-old, range: 0-14), no significant age group difference was found for this covariate measure.

Depressive symptomatology in 1995. Five items composed a 1995 depressive symptomatology covariate: feeling could not get going; having trouble concentrating; feeling sad; feeling lonely; and feeling could not shake the blues. A composite score was created for a variable of depressive symptomatology in 1995 based on the number of days each of these five feelings was reported by a respondent in the seven days preceding the 1995 survey (composite range: 0 to 35).

Out of these 5 items, the one-way ANOVA statistics revealed that in 1995 the soon-to-be-old had a small but significantly higher level on average of trouble concentrating compared to the young-old and the old-old (Means = 0.89 vs. 0.55 and 0.47, respectively, range: 0-7, $F = 3.92$, $df = 2$, $p < .05$). The soon-to-be-old reported a higher level of “feeling sad” and “feeling could not shake the blues” than other two older groups (Means = 0.90 vs. 0.78 and 0.72, respectively, range: 0 to 7 for feeling sad; Means = 0.44 vs. 0.32 and 0.26, respectively, range: 0 to 7 for feeling could not shake the blues). Of interest, the young-old had a higher score of “feeling could not get going” and “feeling lonely” while the soon-to-be-old and the old-old had the same scores for these two attributes (Means of feeling could not get going = 0.93 for the young-old vs. 0.71 for other two groups, range: 0 to 7; Means of feeling lonely = 0.57 for the young-old vs. 0.45 for other two groups, range: 0 to 7). Despite this variance in age group mean scores, no significant age group difference was observed for these other depressive attributes. Overall, composite scores indicated a very low level of depressive symptomatology on average among all groups in 1995 (Means = 3.36 for the soon-to-be-old, 3.11 for the young-old, and 2.57 for the old-old, range: 0 to 35). Also, there was no significant difference by age group for the

overall depressive symptomatology.

Anxiety in 1995. Three items of “worried about little things,” “felt tense or anxious,” and “felt restless” explained anxiety in 1995. A composite score was created for a covariate of anxiety in 1995 based on the number of days a respondent reported each of these three feelings in the seven days preceding the survey (range: 0 to 21).

The findings revealed that the old-old were on average significantly “less worried about little things” than the soon-to-be-old and the young-old in 1995 (Means = 1.12 vs. 2.09 and 1.69, respectively, range: 0 to 7, $F = 9.40$, $df = 2$, $p < .0001$). Significant age group differences were also found for “felt tense or anxious” with the old-old reporting the lowest score for this attribute among these three groups (Means = 2.23 for the soon-to-be-old, 1.70 for the young-old, and 1.08 for the old-old, range: 0 to 7, $F = 17.04$, $df = 2$, $p < .0001$). In terms of “felt restless”, the old-old had a significantly lower average score than the soon-to-be-old (Means of 1.04 vs. 1.44, range: 0-7, $F = 2.56$, $df = 2$, $p < .08$). Overall, the older adults in this sample reported a low level of anxiety in 1995. However, age groups differed significantly in overall 1995 anxiety with the old-old reporting the lowest average level of anxiety on this covariate composite measure (Means = 5.70 for the soon-to-be-old, 4.67 for the young-old, and 3.19 for the old-old, range: 0 to 21, $F = 12.92$, $df = 2$, $p < .0001$).

Psychological well-being in 1995. The above presents the results of one-way ANOVA statistics that analyzed age group differences in the three 1995 psychological well-being covariates (happiness, depressive symptomatology, and anxiety) among the soon-to-be-old, the young-old, and the old-old. In terms of overall psychological well-being in 1995, the results found significant age group differences only in the anxiety covariate with no significant differences by age group for either a covariate of happiness or depressive symptomatology. As in

the 2001 data, the 1995 covariate results indicate that these community dwelling older adults were happy and reported low levels of both depressive symptomatology and anxiety.

Table 5.4. Psychological Well-being in 1995 by Age Group (N=746)
(Values reported as mean with standard deviation)

1995 Psychological well-being indicators: The number of days each measure attribute was reported over 7 days prior the 1995 survey	Soon-to-be-old n=219	Young-old n=271	Old-old n=256	Total N=746
	Mean (SD)			
Happiness in 1995 (range)				
Felt happy (0-7)	6.02 (1.75) ^a	6.19 (1.70) ^a	6.30 (1.61) ^a	6.18 (1.68)
Enjoyed life (0-7)	6.29 (1.66) ^b	6.40 (1.55) ^{a, b}	6.65 (1.30) ^a	6.45 (1.50)
Composite score of 2 feelings over 7 days (0-14)	12.22 (3.11) ^a	12.47 (3.18) ^a	12.77 (2.84) ^a	12.50 (3.05)
Cronbach alpha for composite	.787694			
Depressive symptomatology in 1995 (range)				
Felt could not get going (0-7)	.71 (1.58) ^a	.93 (1.98) ^a	.71 (1.82) ^a	.79 (1.81)
Had trouble concentrating (0-7)	.89 (1.95) ^a	.55 (1.59) ^b	.47 (1.58) ^b	.62 (1.70)
Felt sad (0-7)	.90 (1.75) ^a	.78 (1.63) ^a	.72 (1.71) ^a	.80 (1.69)
Felt lonely (0-7)	.45 (1.37) ^a	.57 (1.60) ^a	.45 (1.36) ^a	.49 (1.46)
Felt could not shake the blues (0-7)	.44 (1.44) ^a	.32 (1.19) ^a	.26 (1.05) ^a	.34 (1.23)
Composite score of 5 symptoms over 7 days (0-35)	3.36 (5.91) ^a	3.11 (5.78) ^a	2.57 (5.17) ^a	3.00 (5.62)
Cronbach alpha for composite	.783046			
Anxiety in 1995 (range)				
Worried about little things (0-7)	2.09 (2.67) ^a	1.69 (2.52) ^a	1.12 (2.13) ^b	1.61 (2.44)
Felt tense or anxious (0-7)	2.23 (2.37) ^a	1.70 (2.20) ^b	1.08 (1.86) ^c	1.64 (2.14)
Felt restless (0-7)	1.44 (2.17) ^a	1.37 (2.10) ^{a, b}	1.04 (1.82) ^b	1.28 (2.04)
Composite score of 3 feelings over 7 days (0-21)	5.70 (6.12) ^a	4.67 (5.60) ^b	3.19 (4.55) ^c	4.47 (5.43)
Cronbach alpha for composite	.779440			

Note. One-way ANOVA statistics were used to test differences among means. Means with different letters are significantly different at less than the 0.05 level in the same variable. Specifically, mean^a is significantly different from mean^b and mean^c and vice versa. Psychological well-being in 1995 was used as covariates.

Stress Factors of the Soon-to-be-old, the Young-old, and the Old-old

Table 5.5 contains the results of Chi-square and one-way ANOVA statistics that examine statistically significant age group differences in stress factors. These statistics tested group comparison on perceived health, physician use, functional limitations, financial difficulties, and stressful life events among the soon-to-be-old, the young-old, and the old-old.

Perceived health. Chi-square statistics revealed statistically significant group differences by age group for perceived health ($\chi^2 = 17.28, df = 8, p < .05$). Obviously, the soon-to-be-old perceived their health better than the young-old and the old-old. About 74.9% of the soon-to-be-old self-rated their health as very good or good, while 66.9% of the young-old and 60.8% of the old-old reported so. Conversely, 7.8% of the soon-to-be-old perceived their health as poor or very poor, whereas 10.0% of the young-old and 14.1% of the old-old did so. This very low percentage of the old-old perceiving their health as poor or very poor may be an attribute of a community dwelling sample. Overall, the perceived health of the total sample was good.

Physician use. By far, the majority of respondents regardless of age saw or talked to a doctor 1-10 times in the past 12 months. This included 80.4% of the soon-to-be-old, 81.9% of the young-old, and 81.1% of the old-old. By contrast, 11.0% of the soon-to-be-old, 9.6% of the young-old, and 7.7% of the old-old never sought a doctor's advice on their health during the past 12 months, and less than two percent in all groups had 31 or more physician contacts during that period. There was no statistically significant group difference for physician contacts based on Chi-square statistics. This finding appears to coincide well with the perceived health measure.

Functional limitations. Functional limitations were measured by a Yes (1) response to a list of everyday activities undertaken at the time period of the survey. Not surprisingly,

Chi-square statistics reveal statistically significant group differences by age group for 6 out of 7 functional limitations listed in Table 5.5. Significant group differences were found for climbing stairs ($\chi^2 = 19.64$, $df = 2$, $p < .0001$), kneeling or stooping ($\chi^2 = 22.21$, $df = 2$, $p < .0001$), lifting 10 pounds or less ($\chi^2 = 16.32$, $df = 2$, $p < .001$), doing household work ($\chi^2 = 32.90$, $df = 2$, $p < .0001$), shopping or getting around ($\chi^2 = 26.41$, $df = 2$, $p < .0001$), and hearing ($\chi^2 = 35.80$, $df = 2$, $p < .0001$). The most difficult activities for all three groups were: kneeling or stooping (46.3% of the soon-to-be-old, 63.3% of the young-old, and 66.5% of the old-old), climbing stairs (33.8%, 47.9%, and 54.0% respectively), and hearing (27.1%, 34.4%, and 52.7%, respectively). Only vision limitations had no significant group variance. The greatest variance between the young-old and the old-old age groups were for doing household work (9.8% vs. 32.1%, respectively, slightly over 3 times) and for limitations in shopping and getting around (11.0% vs. 30.6%, respectively, slightly under 3 times). Regarding a lift of 10 pounds or less there was somewhat less variance: 10.5% of the soon-to-be-old, 17.6% of the young-old, and 24.9% of the old-old reported this functional limitation.

For the composite functional limitation measure, the one-way ANOVA statistics for the mean composite score by group demonstrated statistically significant differences in functional limitations among the three age groups ($F = 23.74$, $df = 2$, $p < .0001$). The old-old presented more functional limitations than the soon-to-be-old and the young-old when the mean number of functional limitations (a composite score ranging from 0 to 7) was compared (Means = 1.62 for the soon-to-be-old, 2.29 for the young-old, and 2.79 for the old-old). This relatively low level of functional limitations in the two older groups may again be an attribute of this sample being comprised of older adults living in the community.

Financial difficulties. Three items (trouble paying for household costs, trouble paying

for medical care, and trouble paying the bills) during the past twelve months composed a variable of financial difficulties (a composite score ranging from 0 to 3). Out of these three items, Chi-square statistics revealed statistically significant group differences only in trouble paying the bills ($\chi^2 = 14.18$, $df = 2$, $p < .001$). The soon-to-be-old experienced significantly more difficulty paying the bills than the young-old and the old-old (25.1% vs. 18.5% and 11.8%, respectively). Comparing the means of the financial difficulty composite score, one-way ANOVA revealed significant group differences between the old-old ($M = 0.29$) and the other two groups of the soon-to-be-old ($M = 0.53$) and the young-old ($M = 0.44$) ($F = 5.36$, $df = 2$, $p < .01$) with the old-old reporting the fewest financial difficulties. This is an interesting finding considering the old-old would be the least apt to still be employed and, therefore, the most apt to be living on a fixed income apt to be lower than income of those still employed in the younger age groups.

Stressful life events. Five items composed the stressful life events of the age groups (have you: ever had home broken into; ever been attacked or assaulted; ever in a major disaster; ever unemployed for 6 months or more; ever not had enough money for necessity). Out of these 5 components, Chi-square statistics demonstrate significant age group differences in “ever unemployed for 6 months or more” ($\chi^2 = 9.32$, $df = 2$, $p < .01$) and “ever not had enough money for necessity” ($\chi^2 = 18.61$, $df = 2$, $p < .0001$). Not surprisingly, the soon-to-be-old were more likely to have experienced unemployment for six months than their young-old and the old-old counterparts (14.2% vs. 9.6%, and 5.9%, respectively). In terms of enough money for necessities, the soon-to-be-old were again more likely to describe insufficiency than the young-old and the old-old (42.0% vs. 36.5% and 23.9% respectively). This finding coincides with the group differences for financial difficulties.

Overall, the one-way ANOVA statistics examined the means of stressful life events (a

composite score ranging from 0 to 5) and found significant group differences between the soon-to-be-old and the two other groups of the young-old and the old-old. The soon-to-be-old experienced significantly more stressful events than the young-old and the old-old (Means of 1.30 vs. 1.08 and 0.92, respectively, $F = 7.49$, $df = 2$, $p. < .001$).

Table 5.5. Stress Factors by Age Group (N=746)
 (Values reported as percentage or mean with standard deviation)

Variable	Soon-to-be -old n=219	Young-old n=271	Old-old n=256	Total n=746
	% ¹			
Perceived health*				
Very good	34.70	24.54	25.49	27.86
Good	40.18	42.38	35.29	39.30
Satisfactory	17.35	23.05	25.10	22.07
Poor	6.39	9.67	12.16	9.56
Very poor	1.37	0.37	1.96	1.21
Physician use during the past 12 months	% ¹			
Never	10.96	9.59	7.66	9.35
1-10 times	80.37	81.92	81.05	81.17
11-30 times	7.31	6.64	10.89	8.27
31 times or more	1.37	1.85	0.40	1.22
Functional limitations (1=Yes)	% ¹			
Climbing stairs****	33.79	47.92	53.97	45.64
Kneeling or stooping****	46.33	63.26	66.53	59.28
Lifting 10 pounds or less***	10.50	17.60	24.90	17.92
Doing household work****	9.81	20.65	32.14	21.02
Shopping or getting around****	11.01	20.75	30.58	21.10
Seeing	24.20	29.52	31.25	28.55
Hearing****	27.06	34.44	52.73	38.58
	Mean (SD)²			
Composite score: 0-7	1.62 (1.75) ^c	2.29 (1.81) ^b	2.79 (1.95) ^a	2.26 (1.90)

Note: ¹ Chi-square statistics were used to test proportion differences. * $p < .05$, *** $p < .001$, **** $p < .0001$.

² One-way ANOVA statistics were used to test differences among means. Means with different letters are significantly different at less than the .05 level in the same variable.

Table 5.5. Stress Factors by Age Group (Continued)

Variable	Soon-to-be -old n=219	Young-old n=271	Old-old n=256	Total n=746
Financial difficulties (1=Yes)	%¹			
Trouble paying for household costs	17.88	14.47	11.22	14.38
Trouble paying for medical care	13.24	13.33	8.37	11.62
Trouble paying the bills***	25.11	18.45	11.76	18.12
	Mean (SD)²			
Composite score: 0-3	.53 (.90) ^a	.44 (.87) ^a	.29 (.66) ^b	.41 (0.82)
Stressful life events (1=Yes)	%¹			
Ever had home broken into	33.79	29.15	28.52	30.29
Ever been attacked or assaulted	13.24	8.86	11.33	10.99
Ever in a major disaster	26.94	23.99	22.75	24.43
Ever unemployed for 6 months or more**	14.16	9.59	5.86	9.65
Ever not had enough money for necessity****	42.01	36.53	23.92	33.83
	Mean (SD)²			
Composite score: 0-5	1.30 (1.14) ^a	1.08 (1.05) ^b	.92 (1.02) ^b	1.09 (1.08)

Note: ¹ Chi-square statistics were used to test proportion differences. ** $p < .01$, *** $p < .001$, **** $p < .0001$.

² One-way ANOVA statistics were used to test differences among means. Means with different letters are significantly different at less than the .05 level in the same variable. Specifically, mean^a is significantly different from mean^b and mean^c and vice versa.

Data Summation for Sense of Control Variables

The Aging, Status, and Sense of Control (ASOC), the dataset used for this study, contains multiple variables of sense of control. This study included “sense of control” variables in the coping resources component of the conceptual framework. Because there are several sense of control measures in the ASOC, a principal component analysis was conducted as a means of data reduction for sense of control variables to be used for this study’s data analysis and multivariate testing. This section presents findings from this data summation process prior to reporting the findings of bivariate analyses of coping resources.

Table 5.6 demonstrates the resulting factor loading and Cronbach coefficient alpha of the principal component analysis of the eight sense of control variables. A two-component solution resulted after varimax rotation with each component accounting for an increasing percentage of the total cumulative variance. This solution led to a creation of two new factors of first external locus of control (6 items, alpha coefficient = .69) and second internal locus of control (2 items, alpha coefficient = .75). The new external locus control measure consists of 6 factors: a respondent has little control over bad things; a respondent is often a victim of things the respondent cannot control; there is no sense planning a lot; good things happen mostly by luck; most problems are due to bad breaks; and problems are caused by selfish, greedy, or mean people. The new internal locus of control measure is composed of 2 factors: a respondent decides how work or daily activities are to be done; and a respondent decides what work or daily activities are to be done.

Following the factor loading and reliability testing, the items comprising the new external and internal locus of control factors were summed to create a composite measure. The resulting “external locus of control” is measured by a composite score of six items with its

score ranging from 0 to 6 and “internal locus of control” is a composite of two items, range from 0 to 2. . Table 5.6 contains univariate statistics on the attributes contained within each new factor and the new composite measures.

Table 5.6. Results of Principal Component Analysis of Sense of Control Variables (N=746)

Principal component analysis with varimax rotation of sense of control variables (N=746)	Factor loading	Cronbach alpha
Factor 1 (External locus of control) (1=No)		.685951
Respondent has little control over bad things	.68173	
Respondent is often a victim of things the respondent cannot control	.63233	
Good things happen without planning a lot	.58838	
Good things happen mostly by luck	.59129	
Most problems are due to bad breaks	.67928	
Problems are caused by selfish, greedy, or mean people	.54960	
Factor 2 (Internal locus of control) (1=Yes)		.745583
Respondent decides how work or daily activities to be done	.89705	
Respondent decides what work or daily activities to be done	.89623	

Note. Factor 1 accounted for 29.14% of variance. Factor 2 accounted for additional 20.23% of variance (49.37% cumulative).

Coping Resources of the Soon-to-be-old, the Young-old, and the Old-old

Table 5.7 provides the percentage proportions and means of coping resources, which were obtained by Chi-square and one-way ANOVA statistics for the soon-to-be-old, the young-old, and the old-old. The table also demonstrates statistically significant age group differences in coping resources.

Health insurance. The Chi-square statistics demonstrates statistically significant age group differences in health insurance ($\chi^2 = 39.87, df = 2, p < .0001$). The data indicates that most of the study sample had health insurance. However, the percentage of holding health insurance was higher among the young-old (98.9%) and the old-old (99.6%) than the soon-to-be-old (90.0%).

Personal income. Not surprisingly, significant age group differences were found by Chi-square statistics in personal income ($\chi^2 = 33.26, df = 6, p < .0001$). More old-old were significantly at the lowest income level (less than \$10,000) compared to the soon-to-be-old and the young-old (41.0% vs. 23.7% and 38.4%, respectively). This corresponds to the finding that the soon-to-be-old were the largest group in the highest income category (26.0%) compared with the young-old (17.7%) and the old-old (14.5%) groups. This is interesting when contrasted to the financial difficulties variable demonstrating that the soon-to-be-old had significantly more difficulty paying their bills compared to the older age groups.

Social participation. The result of Chi-square statistics indicate significant age group differences in social participation ($\chi^2 = 13.68, df = 2, p < .01$). A higher proportion of the soon-to-be-old (44.5%) reported ever having participated in community services, neighborhood, or political organizations compared to either the young-old (40.6%) or the old-old (28.9%).

Voluntary activity. Nearly half older adults participated in volunteer activities for a

church, hospital, library, scouts, or other organizations (49.1% for the soon-to-be-old, 47.2% for the young-old, and 42.2% for the old-old). Chi-square statistics did not find significant difference among age groups in this activity.

Social support: Social contact. Chi-square statistics indicated significant differences in social contact among the three age groups ($\chi^2 = 16.49$, $df = 6$, $p < .05$). The results demonstrated that most of the older adults in the study sample visited their friends or relatives one to five times around the time period of the survey (86.2% of the soon-to-be-old, 90.4% of the young-old, and 86.6% of the old-old). The soon-to-be-old (12.9%) visited friends and family more frequently (six times and more) than did young-old (7.4%) and old-old (7.9%) respondents. By contrast, more old-old (5.53%) reported having no social contact (i.e. never visited) than did the soon-to-be-old (0.92%) and the young-old (2.21%). The data point to a risk of social isolation among the old-old and the importance of social work services to network older adults in this group and visit them at home. These interventions will improve quality of life of socially-isolated oldest group.

Social support: Perceived social support. Four items (having someone to turn to when things get rough, to talk to, who helps when needed, and who takes care of me when sick) categorized perceived social support. Overall, more than 90% of the study sample perceived that they had social support on each of these four items with Chi-square statistics demonstrating no age group difference in any of these social support items. Overall, ANOVA statistics using composite scores ranging from 0 to 4 indicated that the young-old perceived significantly more social support than the old-old (3.84 vs. 3.71, $p < .05$). This finding corroborates the social contact measure findings described above.

Sense of control: External locus of control. As stated in the previous section, sense of

control variables' data was condensed by principal component analysis to two new factors: external locus of control and internal locus of control. External locus of control contained six items (See Table 5.7) with Chi-square statistics showing statistically significant age group differences in five out of six of these items including: "Respondent has little control over bad things" ($\chi^2 = 17.17, df = 2, p < .001$), "Respondent is often a victim of things the respondent cannot control" ($\chi^2 = 10.30, df = 2, p < .01$), "There is no sense planning a lot" ($\chi^2 = 25.92, df = 2, p < .0001$), "Good things happen mostly by luck" ($\chi^2 = 60.76, df = 2, p < .0001$), and "Most problems are due to bad breaks" ($\chi^2 = 6.82, df = 2, p < .05$). For all these items, the soon-to-be-old presented significantly higher proportions on all than the groups of the young-old and the old-old.

One-way ANOVA statistics comparing the means of the composite external locus of control score (range: 0-6) found significant group differences in this measure (Means = 4.73 for the soon-to-be-old, 4.29 for the young-old, and 3.73 for the old-old, $p < .05$). The soon-to-be-old reported a significantly higher level of external control than did the other two groups.

Sense of control: Internal locus of control. The second factor of sense of control obtained in the principal component analysis was grouped as internal locus of control. This factor consisted of two items of "the respondent decides 1) how daily activities or work [is] to be done and 2) what daily activities or work [is] to be done." More than the majority of older adults in each age group decided how and what daily activities or work was to be done. Chi-statistics found significant difference by age group for both items. Of interest, compared to the soon-to-be-old and the young-old, the old-old had significantly higher scores for "Respondent decides how ($\chi^2 = 14.89, df = 2, p < .001$) and what ($\chi^2 = 31.80, df = 2, p < .0001$) daily activities or work [is] to be done." In terms of overall internal locus of control, significant difference

among the three groups was not found. One-way ANOVA statistics showed that only the young-old ($M = 1.57$) and the old-old ($M = 1.69$) had a statistically higher level of internal locus of control than did the soon-to-be-old ($M = 1.32$) when group difference was examined based on the mean of the internal locus of control composite score (range = 0 to 2).

Table 5.7. Coping Resources by Age Group (N=746)
(Values reported as percentage or mean with standard deviation)

Variable	Soon-to-be- old n=219	Young-old n=271	Old-old n=256	Total N=746
	% ¹			
Health insurance**** (1=Yes)	89.95	98.89	99.61	96.51
Personal income****				
Less than \$10,000	23.74	38.38	41.02	34.99
\$10,000-\$30,000	25.57	27.68	32.42	28.63
\$30,000-\$50,000	24.66	16.24	12.11	17.29
\$50,000 or more	26.03	17.71	14.45	19.03
Social support: Perceived social support (1=Yes)				
Have someone to turn to when things get rough	94.95	94.46	93.31	94.21
Have someone to talk to	95.87	96.31	92.91	95.02
Have someone who helps when needed	97.26	97.78	95.70	96.91
Have someone who takes care of me when sick	93.15	96.28	91.73	93.80
	Mean (SD)²			
Composite score: 0-4	3.80 (.67) ^a	3.84 (.57) ^a	3.71 (.74) ^a	3.79 (.66)
	% ¹			
Social support: Social contact*				
Never visit	0.92	2.21	5.53	2.96
1-5 times	86.24	90.41	86.56	87.87
6-10 times	12.39	6.27	7.51	8.49
11-20 times or more	0.46	1.11	0.40	0.67
Social participation*** (1=Yes)	44.50	40.59	28.91	37.72
Voluntary activity (1=Yes)	49.08	47.23	42.19	46.04

Notes: ¹ Chi-square statistics were used to test proportion differences. *** $p < .001$, **** $p < .0001$.

² One-way ANOVA statistics were used to test differences among means. Means with different letters are significantly different at less than the 0.05 level in the same variable. Specifically, mean^a is significantly different from mean^b and mean^c and vice versa.

Table 5.7. Coping Resources by Age Group (Continued)

Variable	Soon-to-be-old n=219	Young-old n=271	Old-old n=256	Total n=746
Sense of control: External locus of control (Factor 1, 1=No)	% ¹			
Respondent has little control over bad things***	73.61	68.66	56.18	65.85
Respondent is often a victim of things the respondent cannot control**	77.98	71.48	64.57	71.02
There is no sense planning a lot****	64.06	47.21	41.18	50.07
Good things happen mostly by luck****	85.71	80.44	56.57	73.88
Most problems are due to bad breaks**	88.53	84.27	79.68	83.97
Problems are caused by bad people	86.64	80.22	82.26	82.81
	Mean (SD)²			
Composite score: 0-6	4.73 (1.46) ^a	4.29 (1.58) ^b	3.73 (1.74) ^c	4.23 (1.65)
Sense of control: Internal locus of control (Factor 2, 1=Yes)	% ¹			
Respondent decides how daily activities or work to be done***	70.78	79.26	85.32	78.81
Respondent decides what daily activities or work to be done****	62.21	77.41	84.31	75.34
	Mean (SD)²			
Composite score: 0-2	1.32 (.83) ^{a,b}	1.57 (.73) ^a	1.69 (.65) ^b	1.54 (.74)

Notes: ¹ Chi-square statistics were used to test proportion differences. ** $p < .01$, *** $p < .001$, **** $p < .0001$.

² One-way ANOVA statistics were used to test differences among means. Means with different letters are significantly different at less than the 0.05 level in the same variable. Specifically, mean^a is significantly different from mean^b and mean^c and vice versa.

Summary of Bivariate Analyses by Age Group and Hypothesis Testing

The bivariate analyses were performed to test how the three age groups of the soon-to-be-old, the young-old, and the old-old differed in socio-demographic characteristics, stress factors, and coping resources. This analysis was used to test the ***Hypothesis 1*** below:

Hypothesis 1. Socio-demographic characteristics, stress factors, and coping resources differ among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older).

The bivariate analyses of socio-demographic characteristics of the three age groups of community dwelling older adults found significant age group differences in marital status, living arrangement, and education. However, no significant difference by age group was presented for gender, and race.

With regard to the 1995 level of psychological well-being, all three groups significantly differed from each other for overall anxiety dimension but no significant group difference was found for overall happiness in 1995 and overall depressive symptomatology in 1995. An observation of each attribute that composes each dimension of psychological well-being also found variance on particular attributes only. For happiness in 1995, group variance was found only for “enjoying life” revealing that the old-old enjoyed life significantly more than the soon-to-be-old. However, no difference was found for the other attribute, “feeling happy”. This partial group variance was also found for depressive symptomatology in 1995. Out of five attributes composing this construct, the soon-to-be-old group only had significantly “more trouble concentrating” than two other groups. No significant variance was found for the other four depressive attributes. For three 1995 anxiety attributes, all three groups differ only in “feelings of anxiousness and tense” with the highest anxious/tense level among the

soon-to-be-old. For two other attributes, the old-old “worried about little things” significantly more than the two other groups and felt significantly “less restless” than the soon-to-be-old. All these findings indicate that *Hypothesis 1* is partially upheld.

Among stress factors, age groups were significantly different in perceived health and functional limitations. The old-old had the higher scores of poor/very poor perceived health and functional limitations than two other younger groups. Nevertheless, for financial difficulties and stressful life events, significant variance was found only on specific composing attributes but not in the composite score for these measures. The soon-to-be-old reported significantly “more trouble paying the bills” than two other groups but such variance was not found in overall financial difficulties. With regard to stressful life events, group difference was found for experiences of “six month more unemployment” and “not having enough money for necessity” but not for overall stressful life events. No significant group difference was obtained for physician use. These results corroborate that *Hypothesis 1* is partially supported by the data.

With regard to coping resources, significant age group differences were found for health insurance, personal income, social participation, social contact, and external locus of control. The soon-to-be-old had significantly more personal income compared to two other older groups. All the three groups significantly differed in the level of external locus of control. Its level declined from the soon-to-be-old to the young-old and the old-old. The soon-to-be-old reported significantly higher levels of social participation and social contact than the younger groups. These levels declined gradually from the soon-to-be-old to the young-old and the old-old. Of interest, the soon-to-be-old had significantly lower scores of attributes of internal locus of control (a respondent decides how and what daily activities or work to be done) than two other older groups. In terms of a composite score of overall internal locus of control, only the soon-to-be-old

differed from two other groups, and difference between the young-old and the old-old was not observed. These results again confirm that *Hypothesis 1* is partially supported by the data. In conclusion, bivariate analyses partially support *Hypothesis 1* as noted above.

Psychological Well-being of the Soon-to-be-old, the Young-old, and the Old-old in 2001: The Dependent Variable

Table 5.8 presents the results of one-way ANOVA statistics that tested statistically significant group differences in the outcome variables of psychological well-being (happiness, depressive symptomatology, and anxiety) among the soon-to-be-old, the young-old, and the old-old. The table contains the means of composite scores of happiness, depressive symptomatology, and anxiety to compare psychological well-being among the three groups. Additionally, since these outcome variables were not standardized measures, the Cronbach alpha of happiness, depressive symptomatology, and anxiety was tested and is contained in Table 5.8. These bivariate analyses of psychological well-being were performed to test *Hypothesis 2*:

Hypothesis 2: There are differences in the level of psychological well-being (happiness, depressive symptomatology, and anxiety) among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older).

The following presents the results of analyses on each dimension of psychological well-being and hypothesis testing.

Happiness. The outcome variable of happiness in 2001 was measured by the total number of the past seven days prior the 2001 survey that the respondent “felt happy” and/or “enjoyed life”. A composite score was created for a variable of happiness based on the number of days each of two feelings of “feeling happy” and “enjoying life” was reported by a respondent in

the past seven days (range: 0 = never happy/ not enjoying life to 14 = happy and enjoying life every day). A test of Cronbach coefficient alpha found a high alpha level for the two items of feeling happy and enjoying life that compose a composite variable of happiness (alpha coefficient = .79). Thus, reliability of this variable of happiness is not a problem.

The results of one-way ANOVA for feeling happy revealed that older adults in all age groups felt pretty happy on average in the seven days preceding the 2001 survey (Means = 6.02 for the soon-to-be-old, 6.19 for the young-old, and 6.30 for the old-old, range: 0 to 7 = happy) with no significant difference found among the age groups on this variable. Older adults of any age group also mostly enjoyed life on average in the past seven days (Means = 6.29 for the soon-to-be-old, 6.40 for the young-old, and 6.65 for the old-old, range: 0 to 7). Here, however, there was a significant difference by age group with the old-old enjoying life significantly more than only the soon-to-be-old ($F = 2.45$, $df = 2$, $P = .09$). Overall happiness was measured by a combination of feeling happy and enjoying life. When taken together, older adults in all age groups reported a high level of overall happiness on average (Means = 12.22 for the soon-to-be-old, 12.47 for the young-old, and 12.77 for the old-old, range: 0 to 14). For the composite overall happiness measure, no significant age group difference was found. .

Depressive symptomatology. Five items composed the composite score for depressive symptomatology: feeling could not get going; having trouble concentrating; feeling sad; feeling lonely; and feeling could not shake the blues. A composite score was created for a variable of depressive symptomatology based on the number of days each of these five feelings was reported by a respondent in the seven days preceding the 2001 survey (range: 0 to 35). Cronbach coefficient alpha among the five items composing depressive symptomatology listed above was .79. Thus, depressive symptomatology is a reliable measure.

Looking at each of these variable attributes individually, the one-way ANOVA statistics revealed statistically significant difference by age group for “felt could not get going” and “felt lonely.” The soon-to-be-old reported a significantly lower level of “felt could not get going” than the young-old and the old-old (Means = 0.68 vs. 1.13 and 1.15, respectively, range: 0 to 7, $F = 4.50$, $df = 2$, $P < .05$). In addition, the soon-to-be-old reported a significantly lower level of “feeling lonely” than the old-old (Means = 0.42 vs. 0.92, range: 0 to 7, $F = 5.14$, $df = 2$, $P < .01$). Overall, composite scores for the depressive symptomatology outcome variable indicated a low level of depressive symptomatology among all older groups (Means = 3.35 for the soon-to-be-old, 3.94 for the young-old, and 4.42 for the old-old, range: 0 to 35) with no significant group difference found for this measure.

Anxiety. Three items explained anxiety: “worried about little things,” “felt tense or anxious,” and “felt restless”. A composite score was created for a variable of anxiety based on the number of days a respondent reported each of these three feelings in the seven days preceding the 2001 survey (range: 0 to 21). This variable of anxiety was tested for Cronbach coefficient alpha resulting in a high coefficient alpha level at 0.80 suggesting that the anxiety measure is reliable.

Examining the three anxiety score attributes individually, results revealed that on average the old-old were significantly “less worried about little things” than was the soon-to-be-old (Means = 1.34 vs. 1.88, range: 0 to 7, $F = 3.31$, $df = 2$, $P < .05$). The soon-to-be-old felt significantly “more tense and anxious” than the young-old and the old-old (Means = 1.93 vs. 1.40 and 1.19, respectively, range: 0 to 7, $F = 9.04$, $df = 2$, $P < .0001$). Overall, when attributes were combined the three groups of older adults did not feel particularly anxious on average (Means = 4.94 for the soon-to-be-old, 4.18 for the young-old, and 3.72 for the old-old, range: 0 to 21, $F = 3.24$, $df = 2$, $P < .05$). Significant age group difference was found for overall

anxiety with the old-old reporting a significantly lower level of anxiety than the soon-to-be-old.

Psychological well-being. In this research, psychological well-being consisted of the three dimensions of happiness, depressive symptomatology, and anxiety presented above. These statistical results reveal significant age group difference only in anxiety between the soon-to-be-old and the old-old. No significant age group difference was observed for either happiness or depressive symptomatology. Thus, ***Hypothesis 2*** was only partially supported by the data.

Table 5.8. Psychological Well-being in 2001 by Age Group (Dependent Variable) (N=746)
(Values reported as mean with standard deviation)

Dependent measures: The number of days each measure attribute was reported over the 7 days prior the 2001 survey	Soon-to-be-old n=219	Young-old n=271	Old-old n=256	Total N=746
	Mean (SD)			
Happiness				
Felt happy (0-7)	6.06 (1.75) ^a	6.09 (1.71) ^a	5.83 (1.91) ^a	5.99 (1.79)
Enjoyed life (0-7)	6.00 (1.85) ^b	6.32 (1.57) ^a	6.27 (1.67) ^{a, b}	6.21 (1.69)
Composite score of 2 feelings over 7 days (0-14)	12.05 (3.38) ^a	12.37 (3.02) ^a	12.05 (3.26) ^a	12.16 (3.21)
Cronbach alpha for composite	.791100			
Depressive symptomatology				
Felt could not get going (0-7)	.68 (1.59) ^b	1.13 (2.08) ^a	1.15 (2.00) ^a	1.00 (1.92)
Had trouble concentrating (0-7)	.83 (1.77) ^a	.74 (1.72) ^a	.93 (1.84) ^a	.83 (1.77)
Felt sad (0-7)	.93 (1.66) ^a	.98 (1.81) ^a	1.04 (1.97) ^a	.99 (1.82)
Felt lonely (0-7)	.42 (1.30) ^b	.64 (1.71) ^{a, b}	.92 (1.99) ^a	.67 (1.71)
Felt could not shake the blues (0-7)	.49 (1.40) ^a	.47 (1.40) ^a	.42 (1.34) ^a	.46 (1.38)
Composite attribute score of 5 symptoms over 7 days (0-35)	3.35 (5.86) ^a	3.94 (6.45) ^a	4.42 (6.41) ^a	3.93 (6.27)
Cronbach alpha for composite	.790623			
Anxiety				
Worried about little things (0-7)	1.88 (2.47) ^a	1.49 (2.27) ^{a, b}	1.34 (2.20) ^b	1.55 (2.31)
Felt tense or anxious (0-7)	1.93 (2.03) ^a	1.40 (1.90) ^b	1.19 (1.86) ^b	1.48 (1.92)
Felt restless (0-7)	1.15 (1.87) ^a	1.30 (1.98) ^a	1.22 (2.01) ^a	1.23 (1.96)
Composite score of 3 feelings over 7 days (0-21)	4.94 (5.48) ^a	4.18 (5.21) ^{a, b}	3.72 (5.01) ^b	4.24 (5.23)
Cronbach alpha for composite	.799598			

Note. One-way ANOVA statistics were used to test differences among means. Means with different letters are significantly different at less than the 0.05 level in the same variable. Specifically, mean^a is significantly different from mean^b and mean^c and vice versa.

This section has reviewed the findings from bivariate testing of age group differences in the outcome variables comprising psychological well-being. In preparation for examining the factors that predicted variance in these outcome measures, the next step in the data analyses consisted of examining any correlations that exist among all the independent and the dependent measures. These analyses were used in the process of multivariate model building as a means to avoid multicollinearity among the measures in the models and as a means to simplify the models.

Zero-Order Correlation Analyses

Tables 5.9, 5.10, and 5.11 contain the results of the zero-order correlation analyses conducted between all dependent variables, all independent variables, and all dependent and independent variables together.

Correlation between the Dependent Variables

Table 5.9 contains correlation coefficients obtained by a correlation analysis between dependent variables only. As indicated in the table, significant correlations were found among all composite score dependent variables. Happiness was significantly negatively correlated with depressive symptomatology ($r = -.50, p < .0001$) and anxiety ($r = -.41, p < .0001$). Depressive symptomatology and anxiety were also significantly positively correlated ($r = .59, p < .0001$). Although all three outcome measures were moderately correlated with each other, the relationships observed are logical and each psychological outcome represents a different conceptual construct. The dependent measures are also tested separately in the multivariate models making multicollinearity not relevant.

Table 5.9. Correlation between Dependent Variables

Dependent variables	Dependent variables (1-3)		
	(1)	(2)	(3)
(1) Happiness			
(2) Depressive symptomatology	-.50****		
(3) Anxiety	-.41****	.59****	

Note. **** $p < .0001$.

Correlation between the Independent Variables

Table 5.10 presents the findings of correlation analysis between independent variables. Statistically significant correlation coefficients found in the analysis ranged from $r = .07$ to $r = .79$. A strong correlation coefficient was found between living arrangement and marital status only ($r = .79$). All other correlation coefficients showed mild to moderate correlations (the largest $r = .58$ between depressive symptomatology in 1995 and anxiety in 1995). This high correlation between marital status and living arrangement may be attributed to the definitions of data in the Aging, Status, and Sense of Control (ASOC) dataset used for the current study. In this database, the attributes of marital status include “living together with someone as married.” In the current study, this attribute was included in “not-married.” This attribute of “living together with someone as married” is confounded with “living with others,” an attribute composing a variable of living arrangement. Multicollinearity was not an issue between other independent variables.

Many significant correlations were found. The table demonstrates that the respondent’s age group (the soon-to-be-old, the young-old, and the old-old) is an important variable significantly correlated with 16 out of 21 independent variables. These significant associations with age group are logical, confirm bivariate observations and include: race ($r = .07, p < .05$), marital status ($r = -.27, p < .0001$), living arrangement ($r = -.29, p < .0001$), education ($r = -.16, p < .0001$), happiness in 1995 ($r = .07, p < .05$), anxiety in 1995 ($r = .18, p < .0001$), perceived health ($r = .12, p < .001$), functional limitations ($r = .24, p < .0001$), financial difficulties ($r = -.12, p < .01$), stressful life events ($r = -.14, p < .0001$), health insurance ($r = .20, p < .0001$), personal income ($r = -.19, p < .0001$), external locus of control ($r = -.24, p < .0001$), internal locus of control ($r = .19, p < .0001$), social contact ($r = -.10, p < .01$), and social participation ($r = -.13, p < .001$). In terms of locus of control, which is likely to be associated with quality of life, internal

locus of control was positively correlated with the age group, whereas external locus of control was associated negatively with the age group. This indicates that the old-old group had a higher level of internal control but a lower level of external control compared to the younger groups implying that the old-old has little control over things but need to be self-determined about daily activities. These data present policy and social work implications for the importance of social support to the older population. While many of these associations are only mild, these findings demonstrate directional associations among the predictors of psychological well being with age suggesting that different factors may affect psychological well-being of each age group differently when examined at a multivariate level.

The findings also reveal the significant relationships of gender with marital status and living arrangement. Older men are more likely to be married and live with others compared to older women. Marriage in later life was also found to be associated with fewer financial difficulties. These data indicate the importance of social work attention to non-married older women. In addition, the 2001 functional limitations were associated with depressive symptomatology in 1995. This has treatment prevention implications as depression often contributes to less physical activity that can lead, as people age, to greater functional limitations. Some major findings presenting important policy and social work implications are highlighted above with their implications discussed in the discussion chapter.

Table 5.10. Correlation between Independent Variables (N = 746) (page 1 of 3)

Independent variables	Independent variables (1-8)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Gender								
(2) Race	.06							
(3) Marital status	.28****	.02						
(4) Living arrangement	.22****	-.03	.79****					
(5) Education	.11**	.03	.10**	.08*				
(6) Happiness in 1995	.03	.07	.08*	.07	.03			
(7) Depressive symptomatology in 1995	-.14***	-.04	-.11**	.10**	-.18****	-.35****		
(8) Anxiety in 1995	-.09*	-.01	-.02	-.02	-.07*	-.32****	.58****	
(9) Perceived health	.01	-.04	-.07	-.06	-.24****	-.14***	.21****	.15****
(10) Physician use	-.01	-.01	.03	.01	.06	-.06	.06	.08*
(11) Functional limitations	-.15****	.02	-.16****	-.18****	-.19****	-.14***	.22****	.18****
(12) Financial difficulties	-.09*	-.22****	-.08*	.01	-.15****	-.20****	.15****	.18****
(13) Stressful life events	.02	-.04	-.04	-.01	.07*	-.08*	.19****	.17****
(14) Health insurance	-.03	.05	.04	.05	.02	.04	-.02	-.05
(15) Personal income	.33****	-.01	.07	.09*	.32****	.02	-.14***	-.06
(16) Sense of control: External locus of control	.14***	.08*	.16****	.15****	.38****	.08*	-.20****	-.16****
(17) Sense of control: Internal locus of control	-.13***	.01	-.21****	-.24****	-.04	-.01	.05	-.03
(18) Social support: Perceived social support	-.07*	-.01	.16****	.14***	-.00	.18****	-.12**	-.09**
(19) Social support: Social contact	-.04	.06	.03	.03	.10**	.10**	-.08*	-.01
(20) Social participation	-.01	-.01	.10**	.08*	.20****	.09*	-.07*	.03
(21) Voluntary activity	-.05	.02	.06	.05	.18****	.10**	-.09*	-.04
(22) Age group	-.07	.07*	-.27****	-.29****	-.16****	.07*	-.06	-.18****

Note. Age group: the soon-to-be-old, the young-old, and the old-old. * $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

Table 5.10. Correlation between Independent Variables (Continued – page 2 of 3)

Independent variables	Independent variables (9-16)							
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) Gender								
(2) Race								
(3) Marital status								
(4) Living arrangement								
(5) Education								
(6) Happiness in 1995								
(7) Depressive symptomatology in 1995								
(8) Anxiety in 1995								
(9) Perceived health								
(10) Physician use	.28****	.						
(11) Functional limitations	.45****	.19****						
(12) Financial difficulties	.16****	.05	.21****
(13) Stressful life events	.07	.04	.09*	.19****
(14) Health insurance	-.03	.05	.02	-.15****	-.10**	.	.	.
(15) Personal income	-.17****	.02	-.23****	-.14***	.05	.05		
(16) Sense of control: External locus of control	-.21****	.01	-.26****	-.18****	.07	.03	.26****	
(17) Sense of control: Internal locus of control	.06	.02	.07****	-.07	-.06	-.00	.01	-.02
(18) Social support: Perceived social support	-.09*	-.03	-.11**	-.11**	-.17****	.08*	.07*	.05
(19) Social support: Social contact	-.11**	-.01	-.06	-.02	.10**	.02	.06	.07
(20) Social participation	-.17****	-.02	-.13***	-.05	.07	-.05	.10**	.12**
(21) Voluntary activity	-.21****	-.00	-.11**	-.03	.04	-.02	.04	.11**
(22) Age group	.12***	.04	.24****	-.12**	-.14****	.20****	-.19****	-.24****

Note. Age group: the soon-to-be-old, the young-old, and the old-old. * $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

Table 5.10. Correlation between Independent Variables (Continued – page 3 of 3)

Independent variables	Independent variables (9-16)					
	(17)	(18)	(19)	(20)	(21)	(22)
(1) Gender						
(2) Race						
(3) Marital status						
(4) Living arrangement						
(5) Education						
(6) Happiness in 1995						
(7) Depressive symptomatology in 1995						
(8) Anxiety in 1995						
(9) Perceived health						
(10) Physician use						
(11) Functional limitations						
(12) Financial difficulties						
(13) Stressful life events						
(14) Health insurance						
(15) Personal income						
(16) Sense of control: External locus of control						
(17) Sense of control: Internal locus of control						
(18) Social support: Perceived social support	-.02					
(19) Social support: Social contact	-.08*	.13***				
(20) Social participation	-.08*	.09*	.14****			
(21) Voluntary activity	-.03	.15****	.07	.28****		
(22) Age group	.19****	-.06	-.10**	-.13***	-.06	

Note. Age group: the soon-to-be-old, the young-old, and the old-old. * $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

Correlation between the Independent Variables and the Dependent Variables

The results of correlation analysis between independent and dependent variables are reported in **Table 5.11**. Significant correlations observed between independent and dependent variables ranged from $r = .07$ to $r = .55$. Thus, the independent variables exhibit mild to moderate correlation with the dependent variables, i.e. the three psychological well-being outcomes.

As the table shows, the independent variables were significantly correlated with the dependent variables in many cases. The outcome of “happiness” was significantly correlated with 16 out of 22 (72%) of the independent variables. These associations include: living arrangement ($r = .08, p < .05$), education ($r = .10, p < .01$), happiness in 1995 ($r = .42, p < .0001$), depressive symptomatology in 1995 ($r = -.26, p < .0001$), anxiety in 1995 ($r = -.23, p < .0001$), perceived health ($r = -.27, p < .0001$), physician use ($r = -.10, p < .01$), functional limitations ($r = -.22, p < .0001$), financial difficulties ($r = -.21, p < .0001$), stressful life events ($r = -.08, p < .05$), personal income ($r = .07, p < .05$), external locus of control ($r = .20, p < .0001$), internal locus of control ($r = .11, p < .01$), perceived social support ($r = .28, p < .0001$), social contact ($r = -.17, p < .001$), social participation ($r = .12, p < .001$), and voluntary activity ($r = .12, p < .01$).

For the “depressive symptomatology”, 18 out of 22 (82%) of the independent variables had significant and generally mild correlations this outcome measure. These were: gender ($r = -.15, p < .0001$), marital status ($r = -.24, p < .0001$), living arrangement ($r = -.18, p < .0001$), education ($r = -.20, p < .0001$), happiness in 1995 ($r = -.20, p < .0001$), depressive symptomatology in 1995 ($r = .43, p < .0001$), anxiety in 1995 ($r = .38, p < .0001$), perceived health ($r = .35, p < .0001$), physician use ($r = .10, p < .01$), functional limitations ($r = .33, p$

< .0001), financial difficulties ($r = .19, p < .0001$), stressful life events ($r = .12, p < .01$), personal income ($r = -.13, p < .001$), external locus of control ($r = -.24, p < .0001$), perceived social support ($r = -.22, p < .0001$), social contact ($r = -.11, p < .01$), social participation ($r = -.12, p < .01$), and voluntary activity ($r = -.09, p < .05$).

For “anxiety”, 14 out of 22 (64%) of the independent variables were significantly correlated with the third outcome. They were: gender ($r = -.12, p < .001$), education ($r = -.12, p < .01$), happiness in 1995 ($r = -.23, p < .0001$), depressive symptomatology in 1995 ($r = .41, p < .0001$), anxiety in 1995 ($r = .55, p < .0001$), perceived health ($r = .24, p < .0001$), physician use ($r = .09, p < .05$), functional limitations ($r = .24, p < .0001$), financial difficulties ($r = .24, p < .0001$), stressful life events ($r = .18, p < .0001$), personal income ($r = -.15, p < .0001$), external locus of control ($r = -.23, p < .0001$), perceived social support ($r = -.15, p < .0001$), and age group ($r = -.09, p < .05$).

As reported above, independent variables that were significantly correlated with any of the dependent variables are many. Twelve out of 22 independent variables (22%) demonstrated statistically significant correlations with all three dependent variables of happiness, depressive symptomatology, and anxiety. Among them, all the covariates of happiness in 1995, depressive symptomatology in 1995, and anxiety in 1995 had significant correlation with the outcome variables (see Table 5.11 for other variables correlated with all of the dependent variables). Nevertheless, with regard to the age group, only the anxiety outcome measure was significantly correlated to age group, confirming the earlier ANOVA analysis. Among these 22 independent variables, three variables (14%), showed no significant correlation with any of the dependent variables. These were: race, health insurance, and internal locus of control.

Table 5.11. Correlation between Dependent and Independent Variables (N = 746)

Independent variables	Dependent variables		
	Happiness	Depressive symptomatology	Anxiety
(1) Gender	.03	-.15****	-.12***
(2) Race	.05	-.04	-.02
(3) Marital status	.13	-.24****	-.01
(4) Living arrangement	.08*	-.18****	-.01
(5) Education	.10**	-.20****	-.12**
(6) Happiness in 1995	.42****	-.20****	-.23****
(7) Depressive symptomatology in 1995	-.26****	.43****	.41****
(8) Anxiety in 1995	-.23****	.38****	.55****
(9) Perceived health	-.27****	.35****	.24****
(10) Physician use	-.10**	.10**	.09*
(11) Functional limitations	-.22****	.33****	.24****
(12) Financial difficulties	-.21****	.19****	.24****
(13) Stressful life events	-.08*	.12**	.18****
(14) Health insurance	.03	-.05	-.04
(15) Personal income	.07*	-.13***	-.15****
(16) Sense of control: External locus of control	.20****	-.24****	-.23****
(17) Sense of control: Internal locus of control	.003	.03	-.06
(18) Social support: Perceived social support	.28****	-.22****	-.15****
(19) Social support: Social contact	-.17***	-.11**	-.02
(20) Social participation	.12***	-.12**	-.03
(21) Voluntary activity	.12**	-.09*	-.06
(22) Age group	-.003	.07	-.09*

Note. Age group: the soon-to-be-old, the young-old, and the old-old.

* $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

Summary

As indicated above, zero-order correlation analyses found significant correlations between all the dependent variables. Statistically significant and moderate correlations among all three dependent variables indicate that the three variables of happiness, depressive symptomatology, and anxiety are different but associated components of psychological well-being. The strength of the correlation associations ($r = -.41$, $r = -.50$ and $r = .59$), suggests that multicollinearity among the dependent variables was not a problem for multivariate testing and the outcome measures are tested in separate regression models. Regarding the independent variables, the findings indicate that statistically significant correlation coefficients ranged from $r = .07$ to $r = .79$. Except for a strong correlation coefficient found between living arrangement and marital status ($r = .79$), the strength of association was mild to moderate suggesting no major multicollinearity problem among the independent variables. Finally, correlation analysis procedures found variance in the significant associations observed among the 19 statistically associated predictors (including age group) and the 3 outcome measures. Where 16 independent predictors were associated with happiness, 18 were associated with depressive symptomatology, and 14 with anxiety. Among these predictors, 12 were correlated with all of the dependent variables. In terms of association with the age group measure, the analysis found that age group was significantly correlated with anxiety only, and its correlation was very mild. These correlation results display that variables other than the age group may explain variance in outcome variables. Three variables, race, health insurance, and internal locus of control, were not significantly correlated with any of the dependent variables. Which predicting variables were included in multivariate analyses will be explained in the next section.

Multivariate Analyses of Age Group Differences in Psychological Well-being and Its Predictors

Multivariate analyses were performed to explore factors associated with psychological well-being (happiness, depressive symptomatology, and anxiety) among three age groups of the soon-to-be-old, the young-old, and the old-old living in the community. The independent variable of race was the only independent measure excluded from the multivariate analyses due to its descriptive data indicating that White respondents composed the majority of the sample (91.6%). Additionally there was no significant bivariate association between race and any of the three outcome measures. All other independent variables included in the conceptual framework of this study were built into the multivariate models as their significant relationships to psychological well-being in later life are evidenced in gerontology literature, as documented in Chapters 2 and 3. For an inclusion of a variable of education in the multiple regression analyses, it was conventionally dummy-coded (less than high school and post high school) with having a high school diploma as a reference group. With regard to the age groups, the variable was dummy-coded with the soon-to-be-old as the contrast group. This group was coded this way since the soon-to-be-old are very different from other two groups in that these adults are not likely to be retired and more likely to be face with many competing role demands compared to other two older groups. Due to their difference from other two groups, the soon-to-be-old serves as a reference group in the overall multivariate analyses. As a result, 23 variables (5 socio-demographic characteristics, 3 1995 psychological well-being covariates, 5 stress factors, 8 coping resources, and 2 age groups) were entered into the multivariate models testing factors adding explanation to the three psychological well-being outcome measures.

Investigation of the factors that explain variance in the three well-being outcome

measures was undertaken using hierarchical multiple regression models. In the multivariate data analysis step, two models of multiple regressions, an additive model and an interactive model, were examined hierarchically. The study conceptual framework found in Figure 3.2 (page 65) served as the framework for additive model building. In accordance with theoretical reasoning suggested by the stress and coping model (Lazarus & Folkman, 1984), five categories consisting of independent variables were entered into hierarchical regression analyses in the following order: (1) socio-demographic characteristics; (2) the covariate 1995 level of psychological well-being (happiness, depressive symptomatology, and anxiety); (3) stress factors; (4) coping resources; and (5) age groups (a dummy-coded variable consisting of the young-old and the old-old as contrasted with the soon-to-be-old as reference). These steps allowed an examination of the relative contributions of the five categories in explaining psychological well-being (happiness, depressive symptomatology, and anxiety) outcomes. Entering the age group variable in the final step measured the main effect of the age groups on psychological well-being outcomes after controlling for all other categories of predictors entered before age group in the models. The additive model described above examines the main effect of predicting variables as well as the independent effect of each predicting variable separately. Nevertheless, it is possible that predicting variables produce a joint effect on outcome variables (Pedhazur, 1997). If two predicting variables interact in their accounting for variance in an outcome variable over and above any additive combination of their independent effects, it indicates that these two variables have a joint effect on the outcome variable. Therefore, the addition of an interactive model will study joint effects over and above any additive combination of separate effects of predicting variables. If the interaction terms appear significant in the interactive model, then the model with the significant joint effect suggests separate, parallel regression models in that one overall

regression line is not the best fit to explain the effects of interacting variables.

Accordingly, regression models containing interaction terms were used in analyzing the data from this study. In the interactive model, six categories consisting of independent variables were entered into hierarchical regression analyses in the following order: (1) socio-demographic characteristics; (2) the 1995 level of psychological well-being (happiness, depressive symptomatology, and anxiety); (3) stress factors; (4) coping resources; (5) the age groups; and (6) interaction factors of stress factors by the young-old and coping resources by the young-old and stress factors by the old-old and coping resources by the old-old. Just as for the previous additive model, these steps explore the relative contributions of these six categories in explaining psychological well-being (happiness, depressive symptomatology, and anxiety) outcomes. Entering the interactive terms (stress factors by the young-old and coping resources by the young-old and stress factors by the old-old and coping resources by the old-old) in the final step studied the joint effects of stress factor and age groups and coping resources and age groups on psychological well-being outcomes after controlling for socio-demographic characteristics, the covariate 1995 level of psychological well-being (happiness, depressive symptomatology, and anxiety), stress factors, coping resources, and the age groups.

Based on the results of the overall interactive multiple regression analyses, this study additionally conducted separate regression analyses for the respondents sorted by age group: the soon-to-be-old, the young-old, and the old-old. The individual age group models allowed for exploration of age group differences in psychological well-being (happiness, depressive symptomatology, and anxiety) as well as comparison of outcome predictors by group.

The following presents the results of overall additive and interactive multivariate analyses of psychological well-being among older adults and separate multivariate regression

analyses for each of the three age groups of the soon-to-be-old, the young-old, and the old-old. This presentation starts with the results of the overall hierarchical regression analyses of predictors of three psychological outcomes (happiness, depressive symptomatology, and anxiety).

Overall Regression Analyses

Happiness. **Table 5.12** displays the results of the hierarchical regression analyses on happiness, the first dimension of psychological well-being in this study. The table displays results from the last step of model building for both additive and interactive models with all categories of predictors included. The additive multivariate model was developed to examine

Hypothesis 3a.

Hypothesis 3a: Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) have a unique effect in predicting **happiness** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.

The final model of additive multiple regression was significant and explained 30.5% of the variance in happiness among the age groups (the soon-to-be-old, the young-old, and the old-old) ($F[23, 700] = 13.33, p < .0001$). The findings demonstrate that 5 variables are significant among 23 predictor variables entered into the analysis. These significant variables include: happiness in 1995; perceived health; external locus of control; perceived social support; and social contact. Age groups (contrast dummy-coded with the reference group of the soon-to-be-old) did not contribute to the variance of happiness after controlling for the effects of

all other independent variables in the model (socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources). These results indicate that the age groups of the soon-to-be-old, the young-old, and the old-old did not differ in their happiness score after taking other factors into consideration. Therefore, *Hypothesis 3a* was not supported by the data.

The interactive model was used to examine the *Hypothesis 3b* below.

Hypothesis 3b: Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) and stress factors and age groups and coping resources have a joint effect in predicting **happiness** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.

In this regression model, after the 23 variables entered in the additive model were included, the interaction terms of 5 variables of stress factor by age group (young-old and old-old) and 8 variables of coping resources by age group (young-old and old-old) were entered last.

The interactive model was significant and explained 34.7% of variance in happiness ($F[49, 674] = 7.31, p < .0001$) adding 4.2% to the variance explained. The findings evidence 11 variables including 4 interactive terms are significant among all the variables entered. These significant terms include: happiness in 1995; perceived health, external locus of control; perceived social support; voluntary activity; the young-old; the old-old; external locus of control by young-old; perceived social support by young-old; external locus of control by old-old; and voluntary activity by old-old. A significant variable of social contact in the additive model is no longer significant in the interactive model. In contrast, 3 variables (voluntary activity, young-old,

and old-old), in addition to 4 interactive terms (external locus of control by young-old; perceived social support by young-old; external locus of control by old-old; and voluntary activity by old-old), became significant in the interactive model. Therefore, the data partially supports

Hypotheses 3b.

Table 5.12. Factors Associated with Psychological Well-being (Happiness) among the Soon-to-be-old, the Young-old, and the Old-old (N = 746) (Additive and Interactive Models)

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Socio-demographic variables</u>		
Gender (1=Male)	-.03 (.24)	.03 (.24)
Marital status (1=Married)	.57 (.34)	.55 (.35)
Living with others	-.44 (.36)	-.36 (.36)
Education		
Less than high school ^a	.15 (.34)	-.05 (.35)
Post high school ^a	.06 (.24)	-.002 (.24)
<u>Psychological well-being in 1995</u>		
Happiness in 1995	.34 (.04)****	.33 (.04)****
Depressive symptomatology in 1995	-.04 (.02)	-.04 (.02)
Anxiety in 1995	-.01 (.02)	-.01 (.02)
<u>Stress factors</u>		
Perceived health	-.43 (.13)***	-.46 (.23)*
Physician use	-.23 (.22)	-.19 (.41)
Functional limitations	-.05 (.06)	-.09 (.13)
Financial difficulties	-.25 (.14)	-.03 (.22)
Stressful life events	.02 (.10)	.19 (.17)
<u>Coping resources</u>		
Health insurance (1=Yes)	-.42 (.57)	-.33 (.64)
Personal income	-.05 (.11)	-.10 (.19)
Sense of control		
External locus of control	.19 (.07)**	.54 (.14)****
Internal locus of control	.11 (.14)	.11 (.23)
Social support		
Perceived social support	.91 (.17)****	1.40 (.30)****
Social contact	.73 (.28)**	.60 (.52)
Social participation (1=Yes)	.20 (.22)	.24 (.40)
Voluntary activity (1=Yes)	-.06 (.22)	.40 (.39)*
<u>Age groups</u> (soon-to-be-old)		
Young-old ^a	.38 (.27)	6.31 (2.96)*
Old-old ^a	.29 (.30)	7.47 (3.45)*

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

^a Reference groups: high school diploma, the soon-to-be-old.

Table 5.12. Factors Associated with Psychological Well-being (Happiness) among the Soon-to-be-old, the Young-old, and the Old-old (Additive and Interactive Models) (Continued)

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Interaction terms</u>		
Perceived health*Young-old		-.06 (.31)
Physician use*Young-old		-.14 (.54)
Functional limitations*Young-old		.31 (.17)
Financial difficulties*Young-old		-.50 (.31)
Stressful life events*Young-old		-.20 (.24)
Health insurance (1=Yes)*Young-old		.42 (1.89)
Personal income*Young-old		-.03 (.24)
Sense of control		
External locus of control*Young-old		-.49 (.18)**
Internal locus of control*Young-old		-.30 (.32)
Social support		
Perceived social support*Young-old		-1.03 (.45)*
Social contact* Young-old		.22 (.70)
Social participation (1=Yes)*Young-old		-.21 (.53)
Voluntary activity (1=Yes)*Young-old		-.03 (.53)
Perceived health*Old-old		.12 (.31)
Physician use*Old-old		.17 (.59)
Functional limitations*Old-old		-.12 (.16)
Financial difficulties*Old-old		-.21 (.36)
Stressful life events*Old-old		-.27 (.25)
Health insurance (1=Yes)*Old-old		-2.34 (2.86)
Personal income*Old -old		.09 (.25)
Sense of control		
External locus of control*Old-old		-.49 (.18)**
Internal locus of control*Old-old		.41 (.35)
Social support		
Perceived social support*Old-old		-.61 (.39)
Social contact*Old-old		.41 (.71)
Social participation (1=Yes)*Old-old		.09 (.57)
Voluntary activity (1=Yes)*Old-old		-1.28 (.55)*
Intercept	1.82 (1.20)	-2.11 (1.90)
<i>R</i> ² total	.305****	.347****

Note. * $p < .05$, ** $p < .01$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

^a Reference groups: high school diploma, the soon-to-be-old.

Depressive symptomatology. Table 5.13 contains the results of the hierarchical regression analyses on depressive symptomatology, the second dimension of psychological well-being in this study. Once again the three age groups of the soon-to-be-old, the young-old, and the old-old are entered as the fifth step in the model. The table presents the last step of the both additive and interactive models. The additive multivariate model tested *Hypothesis 4a*.

Hypothesis 4a: Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) have a unique effect in predicting **depressive symptomatology** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.

The final additive model was significant and explains 36.3% of the variance in depressive symptomatology among age groups (the soon-to-be-old, the young-old, and the old-old) ($F[23, 700] = 17.31, p < .0001$). The findings demonstrate that 7 variables are significant among all 23 variables entered into the model. These significant variables include: marital status; depressive symptomatology in 1995; anxiety in 1995; perceived health; functional limitations; external locus of control, and perceived social support. Age groups (contrast dummy-coded with the reference group of the soon-to-be-old) did not contribute to the variance of depressive symptomatology after controlling for the effects of all other independent variables in the model. These results suggest that the age groups of the soon-to-be-old, the young-old, and the old-old did not differ in depressive symptomatology after taking other factors into consideration. Therefore, the data did not support *Hypothesis 4a*.

The interactive model for depressive symptomatology examines *Hypothesis 4b*.

Hypothesis 4b: Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) and stress factors and age groups and coping resources have a joint effect in predicting **depressive symptomatology** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.

This interactive model also includes the interaction terms of 5 variables of stress factor by age group (young-old and old-old) and 8 variables of coping resources by age group (young-old and old-old) in the final step after the 23 variables entered in the additive model.

This interactive model is significant and explains 38.8% of variance in depressive symptomatology ($F[49, 674] = 8.72, p < .0001$), adding 2.5% to the variance explained. The findings reveal that 9 variables including 3 interactive terms are significant among all the variables entered. These significant predictors include: gender: marital status; depressive symptomatology in 1995; anxiety in 1995; perceived health; perceived social support; perceived social support by young-old, perceived health by old-old, and social contact by old-old. Two significant variables (functional limitations and external locus of control) became insignificant in the interactive model while gender in addition to 3 interactive terms emerge as significant in the interactive model. Therefore, **Hypotheses 4b** is partially supported by the data.

Table 5.13. Factors Associated with Psychological Well-being (Depressive Symptomatology) among the Soon-to-be-old, the Young-old, and the Old-old (N=746) (Additive and Interactive Models)

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Socio-demographic variables</u>		
Gender (1=Male)	-.85 (.44)	-1.07 (.45)*
Marital status (1=Married)	-2.32 (.64)***	-2.20 (.66)***
Living with others	.90 (.66)	.72 (.67)
Education (High school diploma)		
Less than high school ^a	.00 (.64)	.08 (.65)
Post high school ^a	-.69 (.44)	-.65 (.44)
<u>Psychological well-being in 1995</u>		
Happiness in 1995	.01 (.07)	.05 (.07)
Depressive symptomatology in 1995	.25 (.04)****	.26 (.04)****
Anxiety in 1995	.18 (.04)****	.18 (.04)****
<u>Stress factors</u>		
Perceived health	1.09 (.23)****	1.43 (.43)***
Physician use	.12 (.42)	.26 (.76)
Functional limitations	.34 (.12)**	.15 (.25)
Financial difficulties	.25 (.25)	.21 (.42)
Stressful life events	-.02 (.190)	.03 (.32)
<u>Coping resources</u>		
Health insurance (1=Yes)	-.80 (1.06)	-.70 (1.20)
Personal income	.26 (.20)	.15 (.36)
Sense of control		
External locus of control	-.20 (.13)**	-.05 (.26)
Internal locus of control	-.32 (.26)	-.55 (.42)
Social support		
Perceived social support	-1.43 (.31)****	-2.41 (.56)****
Social contact	-.63 (.52)	.44 (.98)
Social participation (1=Yes)	-.49 (.41)	-.92 (.74)
Voluntary activity (1=Yes)	.43 (.40)	.83 (.73)
<u>Age groups (soon-to-be-old)</u>		
Young-old ^a	.36 (.50)	-1.11 (5.56)
Old-old ^a	.23 (.56)	-11.49 (6.49)

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

^a Reference groups: high school diploma, the soon-to-be-old.

Table 5.13. Factors Associated with Psychological Well-being (Depressive Symptomatology) among the Soon-to-be-old, the Young-old, and the Old-old (Additive and Interactive Models) (Continued)

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Interaction terms</u>		
Perceived health*Young-old		.09 (.58)
Physician use*Young-old		-.43 (1.01)
Functional limitations*Young-old		-.05 (.32)
Financial difficulties*Young-old		.20 (.58)
Stressful life events*Young-old		-.32 (.45)
Health insurance (1=Yes)*Young-old		-5.17 (3.56)
Personal income*Young-old		.46 (.45)
Sense of control		
External locus of control*Young-old		-.25 (.33)
Internal locus of control*Young-old		-.56 (.61)
Social support		
Perceived social support*Young-old		2.28 (.85)**
Social contact* Young-old		-1.11 (1.31)
Social participation (1=Yes)*Young-old		.12 (.99)
Voluntary activity (1=Yes)*Young-old		-1.01 (.99)
Perceived health*Old-old		-1.15 (.58)*
Physician use*Old-old		.04 (1.10)
Functional limitations*Old-old		.47 (.31)
Financial difficulties*Old-old		-.11 (.68)
Stressful life events*Old-old		.18 (.47)
Health insurance (1=Yes)*Old-old		4.99 (5.37)
Personal income*Old -old		-.01 (.47)
Sense of control		
External locus of control*Old-old		-.09 (.33)
Internal locus of control*Old-old		-.06(.67)
Social support		
Perceived social support*Old-old		1.16 (.74)
Social contact*Old-old		-2.68 (1.34)*
Social participation (1=Yes)*Old-old		1.28 (1.08)
Voluntary activity (1=Yes)*Old-old		-.66 (1.04)
Intercept	14.22 (2.24)****	17.61 (3.57)****
<i>R</i> ² total	.363****	.388****

Note. * $p < .05$, ** $p < .01$, **** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

^a Reference groups: high school diploma, the soon-to-be-old.

Anxiety. Table 5.14 shows the findings of the hierarchical additive and interactive regression analyses on anxiety, the third and final dimension of psychological well-being, among the age groups of the soon-to-be-old, the young-old, and the old-old. The table contains the last step of both the additive and interactive models. This multivariate additive analysis was conducted for the purpose of testing *Hypothesis 5a*.

Hypothesis 5a: Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) have a unique effect in predicting **anxiety** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.

The anxiety additive model was significant and explains 38.6% of the variance in anxiety among age groups (the soon-to-be-old, the young-old, and the old-old) ($F[23, 700] = 19.12, p < .0001$). The findings present 7 significant variables among all 23 variables entered. These significant variables include: gender; anxiety in 1995; perceived health; financial difficulties; stressful life events; external locus of control; and perceived social support. The age groups (contrast dummy-coded with the reference group of the soon-to-be-old) did not contribute to explaining the variance in anxiety among the age groups after controlling for the effects of all other independent variables in the model. These results present no significant differences in anxiety among the age groups of the soon-to-be-old, the young-old, and the old-old after taking other factors into consideration. Therefore, *Hypothesis 5a* is not supported by the data.

The interactive model was used to test *Hypothesis 5b*.

Hypothesis 5b: Age groups (the soon-to-be-old [50-64]; the young-old [65-74]; and the old-old [75 and older]) and stress factors and age groups and coping resources have a joint effect in predicting **anxiety** after controlling for socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources.

This interactive model again tests the interaction terms of 5 variables of stress factor by age group (young-old and the old-old) and 8 variables of coping resources by age group (young-old and the old-old) after including all other categories of predictors in preceding steps.

This interactive model was significant adding 2.1% to the variance in depressive symptomatology ($F[49, 674] = 9.42, p < .0001$) explained by the additive model. The results demonstrate that the 8 significant variables include 3 interactive terms. The significant predictors for this model include: gender; anxiety in 1995; perceived health; stressful life events; perceived social support; functional limitations by young-old; perceived social support by young-old, and perceived social support by the old-old. Two predictors (financial difficulties and external locus of control) that were significant in the additive model were no longer significant in the interactive model. While the other 5 significant predictors in the additive model remain significant in the interactive model, the latter model identifies no additional significant predictors among the additive model's 23 predictors. The only new explanatory predictors are 3 of the interactive terms. These results indicate that **Hypotheses 5b** is also partially supported by the results.

Table 5.14. Factors Associated with Psychological Well-being (Anxiety) among the Soon-to-be-old, the Young-old, and the Old-old (N = 746) (Additive and Interactive Models)

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Socio-demographic variables</u>		
Gender (1=Male)	-.75 (.37)*	-.89 (.38)*
Marital status (1=Married)	.67 (.53)	.92 (.55)
Living with others	-.02 (.55)	-.16 (.56)
Education (high school diploma)		
Less than high school ^a	-.76 (.53)	-.72 (.55)
Post high school ^a	-.38 (.37)	-.35 (.37)
<u>Psychological well-being in 1995</u>		
Happiness in 1995	-.04 (.06)	-.03 (.06)
Depressive symptomatology in 1995	.06 (.04)	.06 (.04)
Anxiety in 1995	.39 (.04)****	.40 (.04)****
<u>Stress factors</u>		
Perceived health	.51 (.19)*	.78 (.36)*
Physician use	.12 (.35)	.39 (.64)
Functional limitations	.13 (.10)	-.08 (.21)
Financial difficulties	.53 (.21)*	.45 (.35)
Stressful life events	.30 (.16)*	.55 (.27)*
<u>Coping resources</u>		
Health insurance (1=Yes)	.32 (.89)	.06 (1.00)
Personal income	-.16 (.16)	.13 (.30)
Sense of control		
External locus of control	-.37 (.11)***	-.34 (.22)
Internal locus of control	-.39 (.22)	-.68 (.35)
Social support		
Perceived social support	-.71 (.26)**	-1.76 (.47)**
Social contact	.21 (.43)	-.10 (.81)
Social participation (1=Yes)	-.03 (.34)	-.10 (.62)
Voluntary activity (1=Yes)	-.08 (.34)	-.24 (.61)
<u>Age groups</u> (soon-to-be-old)		
Young-old ^a	-.42 (.41)	-4.95 (4.65)
Old-old ^a	-.40 (.47)	-9.65 (5.42)

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

^a Reference groups: high school diploma, the soon-to-be-old.

Table 5.14. Factors Associated with Psychological Well-being (Anxiety) among the Soon-to-be-old, the Young-old, and the Old-old (Additive and Interactive Models) (Continued)

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Interaction terms</u>		
Perceived health*Young-old		-.07 (.49)
Physician use*Young-old		-.30 (.84)
Functional limitations*Young-old		-.05 (.26)*
Financial difficulties*Young-old		.02 (.48)
Stressful life events*Young-old		-.23 (.37)
Health insurance (1=Yes)*Young-old		-2.47 (2.97)
Personal income*Young-old		-.40 (.38)
Sense of control		
External locus of control*Young-old		-.07 (.28)
Internal locus of control*Young-old		.71 (.51)
Social support		
Perceived social support*Young-old		1.82 (.71)*
Social contact* Young-old		.74 (1.09)
Social participation (1=Yes)*Young-old		.08 (.83)
Voluntary activity (1=Yes)*Young-old		-.02 (.83)
Perceived health*Old-old		-.60 (.48)
Physician use*Old-old		-.75 (.92)
Functional limitations*Old-old		.49 (.26)
Financial difficulties*Old-old		.57 (.57)
Stressful life events*Old-old		-.54 (.39)
Health insurance (1=Yes)*Old-old		2.35 (4.48)
Personal income*Old -old		-.24 (.40)
Sense of control		
External locus of control*Old-old		.06 (.28)
Internal locus of control*Old-old		.14 (.56)
Social support		
Perceived social support*Old-old		1.37 (.62)*
Social contact*Old-old		-.30 (1.12)
Social participation (1=Yes)*Old-old		.29 (.90)
Voluntary activity (1=Yes)*Old-old		.13 (.87)
Intercept	9.12 (1.86)****	13.88 (2.98)****
<i>R</i> ² total	.386****	.407****

Note. * $p < .05$, **** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

^a Reference groups: high school diploma, the soon-to-be-old.

In summary, overall multivariate regression analyses did not find a significant unique effect of the age group on any dimension of psychological well-being (happiness, depressive symptomatology, and anxiety) among older adults. However, a few significant joint effects of stress factors by age groups or coping resources by age groups were found on each dimension of psychological well-being among this sample. In addition to these overall regression analyses that examined the age effect using a dummy-coded age group variable consisting of the young-old and the old-old as contrasted with the soon-to-be-old as reference, this study also performed another set of overall regression analyses using a continuous variable of the year the respondent was born in. The results of these additional analyses are contained in the attachment 2 (Table 1. Factors associated with psychological well-being [happiness] among the soon-to-be-old, the young-old, and the old-old; Table 2. Factors associated with psychological well-being [depressive symptomatology] among the soon-to-be-old, the young-old, and the old-old; and Table 3. Factors associated with psychological well-being [anxiety] among the soon-to-be-old, the young-old, and the old-old).

Summary of Incremental R^2 in Hierarchical Regression Analyses

Table 5.15 demonstrates variances obtained in the interactive models of the hierarchical multiple regression analyses on psychological well-being (happiness, depressive symptomatology, and anxiety) among the age groups of the soon-to-be-old, the young-old, and the old-old. The incremental R^2 's in the table indicates relative contribution by each set of predicting variables to an explanation of the outcome variables. This presentation focuses on the component categories of predictors identified in the stress and coping model conceptual framework.

As the table demonstrates, each set of the predicting the outcome variables show a

significant incremental contribution to the variance of happiness, depressive symptomatology, and anxiety among the age groups in 2001. In all three outcome models the addition of the covariates of psychological well-being in 1995 (happiness, depressive symptomatology, and anxiety in 1995) at Step 2 contributes the most to the variance explained. The addition of happiness in 1995 adds 18.9% to the variance explained for the outcome of happiness in 2001; depressive symptomatology in 1995 adds 17.8% to the variance explained for the outcome of depressive symptomatology in 2001; and last anxiety in 1995 adds 29.5% of the variance in explaining the dependent variable of anxiety in 2001. These incremental R^2 's are all of far greater in explanatory value than any of the incremental R^2 's at other steps in the models that range from 0.00% to 9.4%.

The next section will present the results of parallel regression that examined the predicting variables of the psychological well-being of each age group of the soon-to-be-old, the young-old, and the old-old.

Table 5.15. Summary of Incremental R^2 in Hierarchical Regression at Each Step in Analyses of Psychological Well-being Measures in 2001 (N = 746)

Independent variables	Happiness	Depressive symptomatology	Anxiety
Socio-demographic characteristics R^2 at step 1	.0259**	.0936*****	.0292***
Socio-demographic characteristics Psychological well-being in 1995 Incremental R^2 at step 2	.1887*****	.1776*****	.2951*****
Socio-demographic characteristics Psychological well-being in 1995 Stress factors Incremental R^2 at step 3	.0361*****	.0645*****	.0397*****
Socio-demographic characteristics Psychological well-being in 1995 Stress factors Coping resources Incremental R^2 at step 4	.0880*****	.0264*****	.0214*****
Socio-demographic characteristics Psychological well-being in 1995 Stress factors Coping resources Age groups Incremental R^2 at step 5	.0021*****	.0001*****	.0004*****
Socio-demographic characteristics Psychological well-being in 1995 Stress factors Coping resources Age groups Interaction terms Incremental R^2 at step 6	.0425*****	.0253*****	.0208*****
R^2 Total	.3471***	.3879*****	.4066*****

Note. ** $p < .01$, *** $p < .001$, **** $p < .0001$.

Parallel Regression Analyses

The hierarchical multiple regression models presented in the previous section show statistically significant interaction terms by age group (contrast dummy-coded with the reference group of the soon-to-be-old) for each of the outcome measures of psychological well-being (happiness, depressive symptomatology, and anxiety). This fact warranted separate regression analyses for the age groups of the soon-to-be-old, the young-old, and the old-old. In addition, as stated earlier in this section, if age group interaction terms are significant in the overall interactive regression model, separate regression analyses are suggested for each in order to compare the groups because one overall regression line cannot explain the effects of interacting variables. Thus, parallel regression analyses are required to identify the determinants of happiness, depressive symptomatology, and anxiety for the soon-to-be-old, the young-old, and the old-old respectively. These analyses also allow an examination of how those determinants differ by age group. The following presents the results of parallel regression analyses.

Parallel regression analyses of happiness. Table 5.16 contains the results of three hierarchical regression analyses on happiness conducted separately with respondents sorted by the age groups of the soon-to-be-old, the young-old, and the old-old. The last step of each hierarchical regression analysis is presented in the table. In these models, the contrast coded age group variable is eliminated as are all interaction terms.

In these individual analyses, differences based on age group are first observed in the variance explained. Where the regression model for the soon-to-be-old explained 43.1% of the variance (adjusted $R^2 = .369$) in happiness ($F[21, 194] = 6.99, p < .0001$), the model for the young-old explained 34.0% of the variance (adjusted $R^2 = .283$) in happiness ($F[21, 244] = 5.98, p < .0001$), and the model for the old-old explained 31.1%, the least of the variance (adjusted R^2

= .245) in happiness ($F[21, 220] = 4.73, p < .0001$). As in the total sample regression model, the incremental R^2 's indicated that the covariates of psychological well-being in 1995 contributed most to the total variance of all three models for the age groups with the incremental R^2 at this step .200 for the soon-to-be-old, .240 for the young-old, and .184 for the old-old. Controlling for demographic characteristics, the 1995 covariates added far greater explanation than the variance than did stress or coping factors where incremental R^2 's ranged from a low of .025 to a high of .122.

These separate hierarchical regression analyses were performed to test *Hypotheses 6a*.

Hypotheses 6a: The predictors of happiness, a dimension of psychological well-being, differ among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older) under the assumption that significant joint effects between age groups and stress factors and age groups and coping resources are found.

The results found that the significant predictors of happiness differed somewhat among the age groups. Nine out of 21 predictors varied among the age groups with only one (happiness in 1995) common to all the groups. For the soon-to-be-old, the significant factors were: marital status (Beta = .17, $p < .05$), happiness in 1995 (Beta = .24, $p < .0001$), depressive symptomatology in 1995 (Beta = -.19, $p < .05$), external locus of control (Beta = .26, $p < .0001$), and perceived social support (Beta = .25, $p < .001$). For the young-old, the significant factors were: happiness in 1995 (Beta = .35, $p < .0001$), perceived health (Beta = -.15, $p < .05$), functional limitations (Beta = .14, $p < .05$), and financial difficulties (Beta = -.15, $p < .05$). For the old-old, the significant factors were: happiness in 1995 (Beta = .34, $p < .0001$), functional limitations (Beta = -.13, $p < .05$), perceived social support (Beta = .18, $p < .01$), and voluntary

activity (Beta = $-.14$, $p < .05$). These findings show that a covariate of happiness in 1995 was the only predictor that was significantly associated with happiness across all three age groups while the covariate of anxiety in 1995 explained no variance in happiness for any age group. All other significant predictors were unique to any age group or shared by two age groups. Therefore, *Hypothesis 6a* is partially supported.

Table 5.16. Factors Associated with Psychological Well-being (Happiness) among the Soon-to-be-old, the Young-old, and the Old-old (Separate Hierarchical Regression Analyses) (N = 746)

Independent variables	Soon-to-be-old (n = 219)		Young-old (n = 271)		Old-old (n = 256)	
	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta
Socio-demographic characteristics						
Gender	-.04 (.44)	-.01	.22 (.39)	.03	-.18 (.44)	-.03
Marital status	1.31 (.62)*	.17	.02 (.53)	.003	.06 (.75)	.01
Living with others	-1.14 (.66)	-.13	-.07 (.55)	-.01	.16 (.71)	.02
Education (high school diploma) ^a						
Less than high school	-.06 (.90)	-.004	-.51 (.51)	-.06	.41 (.57)	.05
Post high school	-.53 (.45)	-.08	-.02 (.38)	-.003	.37 (.42)	.06
<i>R</i> ² at this step	.041		.046*		.016	
Psychological well-being in 1995						
Happiness in 1995	.27 (.07)****	.24	.35 (.06)****	.35	.39 (.07)****	.34
Depressive symptomatology in 1995	-.11 (.04)*	-.19	-.02 (.04)	-.03	.02 (.04)	.03
Anxiety in 1995	.07 (.04)	.13	-.04 (.04)	-.08	-.05 (.05)	-.07
Incremental <i>R</i> ² at this step	.200****		.240****		.184****	
Stress factors						
Perceived health	-.46 (.24)	-.13	-.50 (.21)*	-.15	-.34 (.22)	-.11
Physician use	-.23 (.42)	-.03	-.33 (.34)	-.05	.06 (.44)	.01
Functional limitations	-.13 (.14)	-.07	.24 (.11)*	.14	-.21 (.10)*	-.13
Financial difficulties	-.02 (.23)	-.004	-.51 (.21)*	-.15	-.20 (.31)	-.04
Stressful life events	.24 (.18)	.08	-.002 (.16)	.001	-.09 (.19)	-.03
Incremental <i>R</i> ² at this step	.067****		.029****		.043****	

Note. *b* indicates the unstandardized regression coefficient. Standard error is presented in parenthesis. Beta indicates the standardized regression coefficient.

p* < .05, ***p* < .0001.

^a Reference group: high school diploma

Table 5.16. Factors Associated with Psychological Well-being (Happiness) among the Soon-to-be-old, the Young-old, and the Old-old (Separate Hierarchical Regression Analyses) (Continued)

Independent variables	Soon-to-be-old (n = 219)		Young-old (n = 271)		Old-old (n = 256)	
	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta
Coping resources						
Health insurance	-.47 (.67)	-.04	-.05 (1.76)	-.001	-2.38 (2.92)	-.05
Personal income	-.06 (.21)	-.018	-.16 (.16)	-.06	-.003(.19)	.01
Sense of control						
External locus of control	.61 (.15)****	.26	.03 (.11)	.02	.07 (.12)	.04
Internal locus of control	.13 (.23)	.03	-.18 (.23)	-.04	.46 (.30)	.08
Social support						
Perceived social support	1.29 (.32)***	.25	.39 (.35)	.07	.76 (.27)**	.18
Social contact	.47 (.54)	.05	.82 (.45)	.10	.93 (.51)	.12
Social participation	.26 (.41)	.04	.05 (.34)	.01	.35 (.44)	.05
Voluntary activity	.43 (.40)	.06	.35 (.34)	.06	-.90 (.41)*	-.14
Incremental R^2 at this step	.122***		.025***		.067***	
R^2 Total	.431****		.340****		.311****	
Adjusted R^2 Total	.369		.283		.245	

Note. *b* indicates the unstandardized regression coefficient. Standard error is presented in parenthesis. Beta indicates the standardized regression coefficient.

* $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

Parallel regression analyses of depressive symptomatology. The findings of three hierarchical regression analyses on depressive symptomatology performed separately for the age groups of the soon-to-be-old, the young-old, and the old-old are presented in **Table 5.17**. The table shows the last step of the regression analysis for each age group. As in the happiness outcome, the models explain decreasing amounts of variance by age group. The model for the soon-to-be-old explained 45.4% of the variance (adjusted $R^2 = .395$) in depressive symptomatology ($F[21, 194] = 7.69, p < .0001$), the model for the young-old explained 41.9% of the variance (adjusted $R^2 = .369$) in depressive symptomatology ($F[21, 244] = 8.39, p < .0001$), and the model for the old-old explained 39.5% of the variance (adjusted $R^2 = .338$) in depressive symptomatology ($F[21, 220] = 6.85, p < .0001$). The incremental R^2 's again indicated that the largest significant variance was contributed by a set of covariates of psychological well-being in 1995 for all three age groups (incremental R^2 's were .162 for the soon-to-be-old, .198 for the young-old, and .220 for the old-old).

These separate hierarchical regression analyses were conducted to test **Hypotheses 6b**.

Hypotheses 6b: The predictors of depressive symptomatology, a dimension of psychological well-being, differ among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older) under the assumption that significant joint effects between age groups and stress factors and age groups and coping resources are found.

The results again found some differences in the significant factors associated with the depressive symptomatology of each of the age groups. For depressive symptomatology, no predictor was common to all the groups. Ten out of 21 predictors varied among the three groups. For the soon-to-be-old, the significant factors were: less than high school education (Beta = -.14,

$p < .05$), happiness in 1995 (Beta = .10, $p < .05$), depressive symptomatology in 1995 (Beta = .30, $p < .0001$), perceived health (Beta = .23, $p < .001$), and perceived social support (Beta = -.26, $p < .0001$). For the young-old, the significant factors were: gender (Beta = -.15, $p < .05$), marital status (Beta = -.20, $p < .05$), less than high school education (Beta = .16, $p < .01$), anxiety in 1995 (Beta = .25, $p < .0001$), and perceived health (Beta = .23, $p < .001$). For the old-old, the significant factors were: depressive symptomatology in 1995 (Beta = .32, $p < .0001$), anxiety in 1995 (Beta = .20, $p < .01$), functional limitations (Beta = .20, $p < .01$), perceived social support (Beta = -.13, $p < .05$), and social contact (Beta = -.14, $p < .05$). As noted, the findings show no significant predictor common to all three age groups with the significant predictors of depressive symptomatology unique to an age group or shared by only two age groups. Therefore, the data support *Hypothesis 6b*.

Table 5.17. Factors Associated with Psychological Well-being (Depressive Symptomatology) among the Soon-to-be-old, the Young-old, and the Old-old (Separate Hierarchical Regression Analyses) (N = 746)

Independent variables	Soon-to-be-old (n = 219)		Young-old (n = 271)		Old-old (n = 256)	
	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta
Socio-demographic characteristics						
Gender	-.43 (.75)	-.04	-1.97 (.80)*	-.15	-.51 (.80)	-.04
Marital status	-1.92 (1.05)	-.15	-2.65 (1.07)*	-.20	-.94 (1.35)	-.08
Living with others	-.05 (1.11)	-.003	2.16 (1.12)	.15	-.58 (1.28)	-.05
Education (high school diploma) ^a						
Less than high school	-3.49 (1.53)*	-.14	2.91 (1.03)**	.16	-1.44 (1.02)	-.09
Post high school	-.52 (.76)	-.04	.48 (.76)	.04	-.99 (.76)	-.08
<i>R</i> ² at this step	.105***		.150****		.075**	
Psychological well-being in 1995						
Happiness in 1995	.18 (.12)*	.10	-.12 (.13)	-.06	.06 (.13)	.03
Depressive symptomatology in 1995	.29 (.08)****	.30	.14 (.07)	.12	.37 (.08)****	.32
Anxiety in 1995	.01 (.07)	.01	.28 (.07)***	.25	.27 (.09)**	.20
Incremental <i>R</i> ² at this step	.162****		.198****		.220****	
Stress factors						
Perceived health	1.40 (.40)***	.23	1.59 (.42)***	.23	-.19 (.39)	.03
Physician use	.23 (.72)	.02	-.26 (.69)	-.02	.21 (.80)	.02
Functional limitations	.26 (.23)	.08	.05 (.21)	.01	.61 (.19)**	.20
Financial difficulties	.19 (.39)	.03	.16 (.42)	.02	.10 (.55)	.01
Stressful life events	.16 (.30)	.03	-.42 (.32)	-.07	.05 (.35)	.01
Incremental <i>R</i> ² at this step	.113****		.053****		.057****	

Note. *b* indicates the unstandardized regression coefficient. Standard error is presented in parenthesis. Beta indicates the standardized regression coefficient.

p*<.05, *p*<.01, ****p*<.001, *****p*<.0001.

^a Reference group: high school diploma

Table 5.17. Factors Associated with Psychological Well-being (Depressive Symptomatology) among the Soon-to-be-old, the Young-old, and the Old-old (Separate Hierarchical Regression Analyses) (Continued)

Independent variables	Soon-to-be-old (n = 219)		Young-old (n = 271)		Old-old (n = 256)	
	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta
Coping resources						
Health insurance	-.47 (1.14)	-.02	-5.31 (3.56)	-.09	2.81 (5.25)	.03
Personal income	-.07 (.36)	-.01	.56 (.33)	.10	.02 (.34)	.004
Sense of control						
External locus of control	-.31 (.25)	-.08	-.25 (.22)	-.06	-.09 (.22)	-.03
Internal locus of control	-.53 (.39)	-.08	.003 (.46)	-.000	-.53 (.55)	-.06
Social support						
Perceived social support	-2.30 (.55)****	-.26	-.17 (.70)	-.01	-1.10 (.49)*	-.13
Social contact	.44 (.91)	.03	-1.02 (.92)	-.06	-2.24 (.92)*	-.14
Social participation	-.92 (.69)	-.08	-.74 (.69)	-.06	.20 (.79)	.02
Voluntary activity	.72 (.68)	.06	.04 (.69)	.003	.16 (.74)	.01
Incremental R^2 at this step	.075****		.018****		.043****	
R^2 Total	.454****		.419****		.395****	
Adjusted R^2 Total	.395		.369		.338	

Note. *b* indicates the unstandardized regression coefficient. Standard error is presented in parenthesis. Beta indicates the standardized regression coefficient.

* $p < .05$, **** $p < .0001$.

Parallel regression analyses of anxiety. The results of the hierarchical regression analyses on the anxiety of the soon-to-be-old, the young-old, and the old-old are reported in **Table 5.18**. The table presents the findings of the last step of the regression analyses. The model for the soon-to-be-old explained 42.8% of the variance (adjusted $R^2 = .366$) in anxiety ($F[21, 194] = 6.91, p < .0001$), the model for the young-old explained 42.9% of the variance (adjusted $R^2 = .379$) in anxiety ($F[21, 244] = 8.71, p < .0001$), and the model for the old-old explained 37.8% of the variance (adjusted $R^2 = .319$) in anxiety ($F[21, 220] = 6.36, p < .0001$). The incremental R^2 's indicated that the largest variance was contributed again by a set of covariates of psychological well-being in 1995 for all three age groups (incremental R^2 's = .284 for the soon-to-be-old, .287 for the young-old, and .266 for the old-old).

These separate hierarchical regression analyses were performed to test **Hypothesis 6c**:

Hypotheses 6c: The predictors of anxiety, a dimension of psychological well-being, differ among the soon-to-be-old (50-64), the young-old (65-74), and the old-old (75 and older) under the assumption that significant joint effects between age groups and stress factors and age groups and coping resources are found.

The results found the significant factors associated with the anxiety of the three age groups. Only one factor, the 1995 covariate for anxiety, was significant for all age groups with other 6 predictors significant for at least one group. For the soon-to-be-old, the significant factors explaining variance in anxiety were: anxiety in 1995 (Beta = .41 $p < .0001$), stressful life events (Beta = .13, $p < .05$), and perceived social support (Beta = -.21, $p < .01$). For the young-old, the significant factors were: gender (Beta = -.19, $p < .01$), anxiety in 1995 (Beta = .41, $p < .0001$), perceived health (Beta = .14, $p < .05$), and external locus of control (Beta = -.12, $p < .05$). For the

old-old, the significant factors were: anxiety in 1995 (Beta = .39, $p < .0001$), functional limitations (Beta = .16, $p < .01$), and financial difficulties (Beta = .14, $p < .05$). Thus, the only factor that was significantly associated with anxiety across all three age groups was anxiety in 1995 other factors significant for only one age group. Overall, there are very few predictors significant for anxiety in these models for any age group. Therefore, **Hypothesis 6c** is only partially supported by the data.

Table 5.18. Factors Associated with Psychological Well-being (Anxiety) among the Soon-to-be-old, the Young-old, and the Old-old (Separate Hierarchical Regression Analyses) (N-746)

Independent variables	Soon-to-be-old (n = 219)		Young-old (n = 271)		Old-old (n = 256)	
	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta
Socio-demographic characteristics						
Gender	-.24 (.72)	-.02	-2.09 (.64)**	-.19	-.20 (.66)	-.02
Marital status	.87 (1.01)	.07	.94 (.85)	.09	1.61 (1.12)	.16
Living with others	-.16 (1.06)	-.01	.51 (.90)	.04	-1.31 (1.05)	-.13
Education (high school education) ^a						
Less than high school	-1.83 (1.47)	-.08	.03 (.82)	.00	-.95 (.84)	-.07
Post high school	-.45 (.73)	-.04	.11 (.61)	.01	-.25 (.63)	-.03
<i>R</i> ² at this step	.009		.103****		.037	
Psychological well-being in 1995						
Happiness	.03 (.11)	.02	-.14 (.10)	-.08	-.01 (.10)	-.003
Depressive symptomatology	.02 (.07)	.02	.06 (.06)	.07	.10 (.07)	.11
Anxiety	.37 (.07)****	.41	.38 (.06)****	.41	.43 (.07)****	.39
Incremental <i>R</i> ² at this step	.284***		.287****		.266****	
Stress factors						
Perceived health	.73 (.39)	.13	.81 (.34)*	.14	.16 (.32)	.03
Physician use	.51 (.69)	.04	.03 (.55)	.003	-.44 (.66)	-.04
Functional limitations	-.02 (.22)	-.01	-.19 (.17)	-.07	.40 (.15)**	.16
Financial difficulties	.42 (.37)	.07	.32 (.34)	.05	1.10 (.46)*	.14
Stressful life events	.68 (.29)*	.13	.25 (.26)	.05	-.10 (.29)	-.02
Incremental <i>R</i> ² at this step	.077****		.025****		.058****	

Note: *b* indicates the unstandardized regression coefficient. Standard error is presented in parenthesis. Beta indicates the standardized regression coefficient.

p*<.05, *p*<.01, ****p*<.001, *****p*<.0001.

^a Reference group: high school diploma

Table 5.18. Factors Associated with Psychological Well-being (Anxiety) among the Soon-to-be-old, the Young-old, and the Old-old (Separate Hierarchical Regression Analyses) (Continued)

Independent variables	Soon-to-be-old ^a (n = 219)		Young-old ^b (n = 271)		Old-old ^c (n = 256)	
	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta	<i>b</i> (SE)	Beta
Coping resources						
Health insurance	.21 (1.09)	.01	-2.39 (2.84)	-.05	2.14 (4.33)	.02
Personal income	-.04 (.35)	-.01	-.20 (.26)	-.04	-.20 (.28)	-.04
Sense of control		.				
External locus of control	-.42 (.24)	-.11	-.40 (.18)*	-.12	-.25 (.18)	-.09
Internal locus of control	-.63 (.37)	-.10	-.07 (.39)	-.01	-.57 (.45)	-.08
Social support						
Perceived social support	-1.69 (.52)**	-.21	-.02 (.56)	-.002	-.33 (.40)	-.05
Social contact	-.19 (.87)	.01	.49 (.73)	.03	-.39 (.76)	-.03
Social participation	-.07 (.66)	-.01	.02 (.55)	.002	.15 (.65)	.01
Voluntary activity	-.32 (.65)	-.03	-.17 (.55)	-.02	-.05 (.61)	-.01
Incremental R^2 at this step	.059****		.014****		.017**	
R^2 Total	.428****		.429****		.378****	
Adjusted R^2 Total	.366		.379		.319	

Note: *b* indicates the unstandardized regression coefficient. Standard error is presented in parenthesis. Beta indicates the standardized regression coefficient.

* $p < .05$, ** $p < .01$, **** $p < .0001$.

Summary Overviews of Significant Factors Associated with Psychological Well-being among the Three Age Groups

Table 5.19 presents the summary overview of significant factors in the parallel additive regression models associated with psychological well-being (happiness, depressive symptomatology, and anxiety) of the three groups of the soon-to-be-old, the young-old, and the old-old. Only the socio-demographic characteristics, psychological well-being in 1995, stress factors, and coping resources that were identified as significant in any of the multivariate models are contained in Table 5.19. The following identifies the significant factors associated with psychological well-being of the three age groups. These factors were found significant at an alpha level of .05 or less.

Factors for happiness. The significant predictor common for happiness to all three groups is happiness in 1995. In the order of the stepwise regression entry, predictors significantly associated with a higher score of happiness for the soon-to-be-old are being married, having a higher score of happiness in 1995 and a lower score of depressive symptomatology in 1995, more external locus of control, and more perceived social support. The significant factors for the young-old's happiness are a higher score of happiness in 1995, better perceived health, more functional limitations, and fewer financial difficulties. For the old-old, the significant factors for happiness are a higher score of happiness in 1995, fewer functional limitations, more perceived social support, and not volunteering.

The differences between the unstandardized regression coefficients of the significant predictors common to two or three age groups were tested to find significant differences between the age groups. Significant age group differences in the test results present that the significant predictor has a different level of impact on happiness for the soon-to-be-old, the young-old, and

the old-old. The test results found that the regression slopes are statistically different for functional limitations at less than the .05 level and perceived social support at less than .01 level but no significant group difference was found for happiness in 1995. Perceived social support has a significantly greater impact on happiness for the soon-to-be-old than the old-old, while functional limitations have a significantly larger impact on happiness for the young-old than the old-old. With regard to the impact of happiness in 1995 on the current happiness in 2001, no significant difference was found among the age groups.

Factors for depressive symptomatology. There is no common factor associated with depressive symptomatology among all age groups. In the order of the stepwise regression entry, factors significantly associated with a higher score of depressive symptomatology for the soon-to-be-old are having a high school diploma compared to less than high school education, a higher score of happiness in 1995, a higher score of depressive symptomatology in 1995, poor perceived health, and less perceived social support. The significant factors for the young-old's depressive symptomatology are: being a female, not-married, having less than high school education compared to high school diploma, a higher score of anxiety in 1995, and poor perceived health. For the old-old, significant factors for higher depressive symptomatology are: a higher score of depressive symptomatology in 1995, a higher score of anxiety in 1995, more functional limitations, less perceived social support, and fewer social contacts.

The differences between the unstandardized regression coefficients of the significant predictors common to two or three age groups were tested to find significant differences between the age groups. The regression slopes are statistically different for less than high school education (contrasted with high school diploma) at less than the .01 level, anxiety in 1995 at less than the .001 level, and perceived social support at less than .001 level. Less than high school

education (contrasted with high school diploma) has a significantly greater impact on depressive symptomatology for the soon-to-be-old than the young-old. Anxiety in 1995 has a significantly greater impact on depressive symptomatology for the young-old than the old-old. Perceived social support has a significantly larger impact on depressive symptomatology for the soon-to-be-old than the old-old. Regarding depressive symptomatology in 1995 and perceived health, no significant difference in the impact on depressive symptomatology was found among the age groups.

Factors for anxiety. The only significant common factor associated with a higher level of depressive symptomatology across all the groups is anxiety in 1995. In the order of the stepwise regression entry, factors predicting a higher score of anxiety for the soon-to-be-old are a higher score of anxiety in 1995, more stressful life events, and less perceived social support. The significant factors for the young-old are being female, having a higher score of anxiety in 1995, poor perceived health, and less external locus of control. The significant factors for the old-old are having a higher score of anxiety in 1995, more functional limitations, and more financial difficulties.

Anxiety in 1995 emerged as the only significant common factor predicting the current depressive symptomatology in 2001 across all the age groups. All other factors are significant for an age group only. The differences between the unstandardized regression coefficients of anxiety in 1995 were tested but no significant difference was found on the level of its impact among the age groups.

This study has conceptually been guided by the stress and coping model (Lazarus & Folkman, 1984). This model postulates that peoples' psychological well-being is influenced by diverse stress factors and coping responses in multiple domains. Based on this holistic approach

maintained by this model, this study categorizes a variety of factors into socio-demographic characteristics, the 1995 psychological well-being covariates, stress factors, and coping resources. In sum up, results for significant factors associated with psychological well-being of the soon-to-be-old, the young-old, and the old-old are reviewed by comparing these predictor categories. The data demonstrates that each of these categories of predictors has explanatory value to understanding reasons for variance in psychological well-being among older adults residing in the community.

As indicated above, overall, 3 out of 5 **socio-demographic characteristics** predicted psychological well-being of older adults. Those significant factors include gender, marital status, and education (less than high school education compared to a high school diploma). The study found that the **covariates** of happiness in 1995 and anxiety in 1995 predicted the current happiness and anxiety, respectively, for all three age groups. However, depressive symptomatology in 1995 is significantly related to depressive symptomatology of the soon-to-be-old and the old-old only but not the young-old. These covariates were the strongest predictors of all three outcomes. These significant longitudinal associations of psychological well-being are important for planning early interventions. Among the 5 **stress factors** included in the regression models, 4 variables (perceived health, functional limitations, financial difficulties, and stressful life events) are significantly related to the respondent's psychological well-being. With regard to **coping resources**, 4 out of 8 variables (external locus of control, perceived social support, social contact, and voluntary activity) are significant predictors in explaining the respondent's psychological well-being.

Of interest in Table 5.19 is the finding that the significance of predictors varies by age group and by outcome in all categories. The 1995 covariates have the greatest explanatory

strength and predict outcomes for current happiness and anxiety for all age groups and predict current depressive symptomatology for two of the three age groups. Among the stress factor category, it is the health-related factors (perceived health and functional limitations) that are significantly related to all three dimensions of psychological well-being but this varies by age group. With regard to coping resources, only perceived social support was significantly associated with all the dimensions of psychological well-being but not at not for any outcome for the young-old. This table demonstrates how which age group these factors are associated with differs by outcome dimension. In sum up, significant predictors are found in all four predicting categories of the stress and coping model indicating that the stress and coping model reflects a goodness of fit in explaining psychological well-being among older adults living in the community.

Table 5.19. Summary of Significant Factors (*b* coefficients) of Psychological Well-being among the Soon-to-be-old, the Young-old, and the Old-old (N = 746)

Independent variables	Happiness			Depressive Symptomatology			Anxiety		
	Soon-to-be-old	Young-old	Old-old	Soon-to-be-old	Young-old	Old-old	Soon-to-be-old	Young-old	Old-old
Socio-demographic characteristics									
Gender					-1.97*			-2.09**	
Marital status	1.31*				-2.65*				
Living arrangement									
Education									
Less than high school				-3.49*	2.91**				
Post high school									
Psychological well-being in 1995									
Happiness in 1995	.27****	.35****	.39****	.18*					
Depressive symptomatology in 1995	-.11*			.29****		.37****			
Anxiety in 1995					.28***	.27**	.37****	.38****	.43****
Stress factors									
Perceived health		-.50*		1.40***	1.59***			.81*	
Physician use									
Functional limitations		.24*	-.21*			.61**			.40**
Financial difficulties		-.51*							1.10*
Stressful life events							.68*		

* $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

Table 5.19. Summary of Significant Factors (*b* coefficients) of Psychological Well-being among the Soon-to-be-old, the Young-old, and the Old-old (N = 746) (Continued)

p*<.05, *p*<.01, *** *p*<.001, *****p*<.0001.

Independent variables	Happiness			Depressive Symptomatology			Anxiety		
	Soon-to-be-old	Young-old	Old-old	Soon-to-be-old	Young-old	Old-old	Soon-to-be-old	Young-old	Old-old
Coping resources									
Health insurance									
Personal income									
Sense of control									
External locus of control	.61****							-.40*	
Internal locus of control									
Social support									
Perceived social support	1.29***		.76**	-2.30****		-1.10*	-1.69**		
Social contact						-2.24*			
Social participation									
Voluntary activity			-.90*						
<i>R</i> ² total	.431****	.340****	.311****	.454****	.419****	.395****	.428****	.429****	.378****
Adjusted <i>R</i> ² total	.369	.283	.245	.395	.369	.338	.366****	.379	.319

This chapter presents statistical findings on the psychological well-being (happiness, depressive symptomatology, and anxiety) of the three age groups of the soon-to-be-old, the young-old, and the old-old. In sum, the bivariate analyses demonstrate significant age group difference only in the anxiety outcome between the soon-to-be-old and the old-old. No significant age group difference was found for either happiness or depressive symptomatology. The overall multivariate analyses did not reveal a significant unique effect of the age group on any dimension of psychological well-being among this sample of older adults. As noted in Chapter 2, in gerontology literature empirical findings are inconsistent on the effect of age on psychological well-being. The separate hierarchical regression analyses reported here reveal that out of 21 variables tested, happiness and anxiety were predicted by only one common significant factor (the 1995 psychological well-being covariates) and 12 other factors that were significant for at least one group. The parallel regression analysis reported confirms that while age differences exist for predictors of psychological well-being, these differences in-and-of-themselves vary, i.e. confirming inconsistency in age as an explanatory variable for variance in happiness, depressive symptomatology and anxiety.

Other differences in the significant factors associated with psychological well-being among older adults were also found. Among the predictors, the 1995 psychological well-being covariates are the most robust predictors presenting the largest variance in explaining psychological well-being among older adults. As reported, factors significantly related to psychological well-being were found from each of 4 predictor categories of the stress and coping model: 3 out of 5 socio-demographic factors, all 3 covariates of psychological well-being in 1995, 4 out of 5 stress factors, and 4 out of 8 coping resources. Thus, the stress and coping models fits well in explaining psychological well-being among older adults.

The primary goal of this study is to explore psychological well-being (happiness, depressive symptomatology, and anxiety) among three groups of the soon-to-be-old, the young-old, and the old-old living in the community. In addition to these between-group analyses, this study also examined how psychological well-being changed among the three groups longitudinally from 1995 to 2001 and how psychological well-being differs by gender and marital status within each age group. These analyses were performed descriptively, and the results are contained in Appendices 3 (Table 4. Psychological well-being among the soon-to-be-old, the young-old, and the old-old in 2001 and 1995) and 4 (Table 5. Differences in psychological well-being among the soon-to-be-old, the young-old, and the old-old in 2001 and 1995 by gender; and Table 6. Difference in psychological well-being among the soon-to-be-old, the young-old, and the old-old in 2001 and 1995 by marital status).

The next chapter will discuss these findings, their consistency and inconsistency with previous findings, and implications for the future.

6. DISCUSSION

The goal of this research is to explore psychological well-being (happiness, depressive symptomatology, and anxiety) among three groups of older adults (the soon-to-be-old, the young-old, and the old-old) living in the community. The findings enhance knowledge on psychological well-being in old age and its salient factors while providing insights into policy, program, and social work practice to promote well-being in later life among the rapidly growing and aging segment of the American population.

The research presents variance among factors associated with the psychological well-being of the three age groups of American older adults living in the community: the soon-to-be-old (ages 50-64), the young-old (ages 65-74), and the old-old (ages 75 and over). The findings reported in the previous chapter demonstrate that average levels of psychological well-being are only slightly different for the three age groups. They also demonstrate that after the 1995 psychological well-being covariates are taken into account, other factors associated with psychological well-being are distinct for each age group. The results show that factors associated with psychological well-being fall in multiple areas suggesting a need for multi-component interventions unique to each age group to promote and maintain psychological well-being among older adults.

This chapter discusses the findings on the profile of the study sample including overall psychological well-being among the study sample, differentials in psychological well-being among the soon-to-be-old, the young-old, and the old-old, and factors associated with the psychological well-being of each age group. This discussion is framed within the study conceptual framework of the stress and coping model backed up by socio-emotional selectivity theory, the life course perspective, and critical theory. Also included are implications for social

work knowledge and practice in the areas of policy, programs, and interventions. The significance of the study, its limitations, and suggestions for future research are also presented.

Profile of the Study Sample

This section discusses a profile of the study sample. It also compares this sample profile with the national data on older adults living in the community where the comparable national data is available. This comparison is undertaken in an effort to determine how much the findings from this study investigating the national sample can be generalized to the national population of the soon-to-be-old, the young-old, and the old-old living in the community.

When older adults are studied, gerontologists determine the sample's age range depending on their research goal and perspectives (Cooley, Dettch, Harper, Hinrichsen, Lopez, & Molinari, 1998). These determinations result in variation among age ranges found in older samples across research projects and a challenge to the ability of researchers to replicate and/or generalize their findings. For example, where some researchers investigating psychological well-being in older adults select, as this study did, a wide age range such as the 50's and over (Murrell, Salsman, & Meeks, 2003) others adopt much narrower range such as only age 99-100 (Jopp & Rott, 2006). The sample of older adults studied here was obtained from a dataset of the Aging, Status, and Sense of Control (ASOC) study that includes adults living in the community in 2001 who ranged in age from 50 to 98. Because the study reported here was interested in age group variances, the ASOC participants were grouped into the three age groups: the soon-to-be-old (ages: 50-64 in 2001), the young-old (ages: 65-74 in 2001), and the old-old (ages: 75 and over in 2001). As with the original data set, the highest age represented in this sample was 98. Thus, this study sample unfortunately does not represent centenarians. In the future, it is important to include the centenarian sample in psychological well-being studies as this oldest of

the old are the most rapidly expanding group of American elders, increasing by 72% from 1990 to 2010 (Administration on Aging, 2010). Involving older adults of wider age ranges in study samples will enrich knowledge of psychological well-being across the total aging spectrum.

Gender variance is another important factor in aging studies. Older women continue to outnumber older men reflecting women's longer life expectancy compared to men's and represent 56.5% of older adults in a national sample aged 65 and over in 2010 (U.S. Census Bureau, 2011a). Of interest regarding gender is that while the 2001 sample analyzed here is also overrepresented by female respondents, a decade ago this representation was at a slightly higher proportion than the 2010 census data report (61.5% vs. 56.5%). As women are living longer, gender proportional representation may continue to level out in the future, something that is worth watching for medical, mental health, and social service programs that are gender specific. Broken down by age group the 2001 female comparisons are: 57.5% among the soon-to-be-old, 60.9% among the young-old, and 65.5% among the old-old. These findings replicate female proportions observed in previous older adult sample studies. For example, in Newsom, Rook, Nishishiba, Sorkin, and Mahan's (2005) study on older adults' well-being, females represent 61.9% of their random sample. A female ratio was at 70% in Steffens, Pieper, Bosworth, MacFall, Provenzale, Payne et al.'s (2005) research on geriatric depression. The overrepresentation of women in the older population emphasizes the importance of a closer look at gender difference in psychological well-being.

With regard to a racial distribution, 91.6% of this study sample was White while the remaining respondents were categorized into non-White due to the small numbers contained in other racial/ethnic groups (Black or African American, Asian or Pacific Islander, Native American or Alaskan native, or other). The national older population is growing more diverse

(Federal Interagency Forum on Aging-Related Statistics, 2010). Where only 8.52% of the young-old (age 65-74) and 5.93% of the old-old (age 75-98) in the 2001 sample of this study were minorities, in 2009, 19.9% of people age 65 and over were minorities in the U.S. society (Ibid.). Compared to the national data, the overrepresentation of White in this study is noted as a limitation with a race variable excluded from multivariate analyses due to the absence of variance on this respondent characteristic. Future studies with a focus on older minority populations are needed as American older adults are becoming more diverse. Based on ethnic and cultural factors, older minority aging may require interventions differing from their White counterparts to maintain their psychological well-being in later life.

The majority of the study sample reported here (56.9%) was married. Consistent with the national statistics, the percentage of the married among the older sample decreases with the advancement of age (U.S. Census Bureau, 2011b). In this study, the proportion of the married decreased significantly from 72% among the soon-to-be-old to 38% of the old-old. These percentages vary slightly from the 2010 census data that found the marriage rate for the soon-to-be-old group lower at 67.5% declining to 46.3% for the old-old with the latter a larger percentage than married in the 2001 sample (U.S. Census Bureau, 2011b). A comparison of these statistics indicate that fewer soon-to-be-old were married in 2010 compared to this 2001 sample possibly reflecting greater divorce rates among Baby Boomers. Conversely, the higher married rate among the old-old in 2010 may reflect greater longevity for men and women. Kvaal, McDougall, Brayne, Matthews, and Dewey (2008) found that being not married (i.e. single, widowed, and divorced/separated) significantly predicts higher levels of both anxiety and depressive syndromes in old age. Their findings are partially consistent with Yang's (2008) study, which found that divorced or widowed older adults were more depressed than single or married

older adults. The correlation analysis in this study replicates these previous findings, revealing significant correlation between being married and a lower score of depressive symptomatology. These consistent findings suggest that maintenance of psychological well-being of not-married older adults be an important target in future aging policies and programs.

With regard to living arrangement, the findings reveal that the study sample was more likely to live with others compared to the current older adult US population. The national statistics indicate that 71.2% of those aged 55-64 lived with others in 2010 (U.S. Census Bureau, 2011d) compared with 80.8% of the soon-to-be-old (age 50-64) sample in 2001 although the age ranges of these sample are not exactly the same. This proportion of living with others decreased to 64.2% in the 2010 national sample and 71.2% in this 2001 sample of the young-old. It further decreased to 45.4% (2010 national sample) and 46.1% (this 2001 sample) for the old-old. In terms of living arrangement, a significant group difference was observed among this study's three age groups. Burnette and Mui's (1997) study of young-old and old-old Hispanics evidenced the significant association of living alone with depression. This study endorses these researchers' findings by evidencing significant correlation of living with others with a lower level of depressive symptomatology. Thus, the significant finding of this study, which presents the highest proportion of living alone among the old-old group, indicates the importance of policy and program interventions to target this age group as possibly being at greater risk for psychological well-being issues related to depression.

With respect to education, the Baby Boomers are better educated than the current older population (Knickman & Snell, 2002). The 2010 US Census data indicate that 89.6% of the soon-to-be-old Baby Boom group had a high school diploma or post high school education compared to 82.8% of the young-old and 75.2% of the old-old (U.S. Census Bureau, 2011c).

These trends were confirmed in this study that shows the lowest level of education in the oldest group and the highest level in the youngest group with 94.6% of the soon-to-be-old, 84.0% of the young-old, and 81.6% of the old-old reporting a high school diploma or post high school education. A significant relationship of education with psychological well-being in later life has been found in many previous studies. For instance, Murrell, Salsman, and Meeks (2003) present that a higher level of education increases the likelihood of being happy among older adults. Roberts, Kaplan, Shema, and Strawbridge (1997) found a significant association of less education and depressive symptoms. The results of this study found significant but inconsistent age group differences in the levels of education indicating the necessity to research how a level of educational impacts psychological well-being among the older population.

In sum, as discussed above, the socio-demographic profile of this study sample cannot simply be generalized to the current national population of the soon-to-be-old, the young-old, and the old-old living in the community. However, the fact that this study sample was drawn from a national sample suggests that some insights can be drawn to understand psychological well-being in old age and develop implications for interventions. These three age groups were significantly different in terms of marital status, living arrangement, and education. Thus, this study's first hypothesis – there are age group differences in socio-demographic characteristics - was partially supported. As noted, individuals' socio-demographic characteristics can impact their psychological well-being. Significant age group differences noted in this study suggest that age-group specific policies and social work interventions are necessary to promote psychological well-being in later life. One overarching intervention will not be effective.

Overall Trends in Psychological Well-being in the Study Sample

This study measured happiness, depressive symptomatology, and anxiety as the

constructs constituting psychological well-being among older adults living in the community. A general assumption is that old age is associated with declining psychological well-being in face of age-related abatements and losses as well as impending mortality (Fung, 2005; Moos, Brennan, Schutte, & Moos, 2006). In existing gerontology research, the constructs of happiness, depressive symptomatology, and anxiety have been studied using a variety of measurements depending on how researchers define and operationalize these constructs. This variability in measurements has made it difficult to compare the data on psychological well-being across research.

With respect to happiness, the sample of this study showed a high score of happiness (mean = 12.2) when the construct was assessed by a composite score of the number of days the respondents reported either “feeling happy” and/or “enjoying life” in the 7 days preceding the survey (range = 0 - 14). Although there is no other research that used the same composite measurement of happiness, prior happiness studies provide more conservative data compared to the findings from this study. Murrell, Salsman, and Meeks (2003) measure happiness among people of age 55 and older in the State of Kentucky using an eight-item positive mood scale. These researchers report the mean of happiness score at 12.1 (range = 8 - 23). Yang (2008) investigates the prevalence of happiness among people ages 50 and over and finds 34.5% of this national sample reports being “very happy.” Despite a difference in measurements, it can be inferred that the prevalence of happiness was higher in this study’s sample than others cited above. However, in order to reliably compare the levels of happiness among older adults, more consistent use of standardized and reliable measure of happiness is needed.

Depression, anxiety, and personality disorders are the three most prevailing mental disorders among older adults (Hooyman & Kiyak, 2011). The sample of this study reported a

very low score of depressive symptomatology, not surprising based on the high scores on happiness. The depression construct was assessed by a composite score of the number of the days each of the five depressive feelings was reported by a respondent in the 7 days prior the survey (range = 0 - 35). The mean score of the sample was only 3.93, very low. Similar to the happiness construct, in previous research depressive symptomatology has been assessed in multiple ways depending on researchers' conceptualization of the construct and measurements. This multiplicity in conceptualization makes a data comparison difficult. However, the Federal Interagency Forum on Aging-Related Statistics (2010) reveals the national rates of depressive symptoms, not clinical depression, among older adults as measured by an abbreviated version of the Center of Epidemiological Studies Depression Scale (CES-D). In their data, the rates of depressive symptoms range from 17% to 20%. Thus, although a direct comparison of data cannot be done due to different measurements, a prevalence of depressive symptomatology in this study was lower than the national data. As stated, depression is a grave mental health issue among older adults which requires more public attention. To reliably determine how and how much depression impacts people's quality of life as they age, a use of standardized measure of depression should be encouraged for future gerontology research.

Another mental disorder rampant in later life is anxiety. The Administration on Aging (2009b) estimates the rate of anxiety disorders among those ages 55 and older to be nearly 20%. The National Institute of Health (NIH) presents more conservative data indicating that anxiety disorders (persistent, excessive and disabling fear and worry and becomes progressively worse if not treated) affect 3 to 14% of older adults. This study's sample revealed a low mean score of anxiety (4.24 out of 21), when anxiety was assessed by a composite score of the number of days each of the three anxiety items was reported by a respondent in the 7 days preceding the survey

(range = 0 - 21). Thus, even though measures of anxiety differ across research studies, it is possible that a prevalence of anxiety in the current study is lower than the nationally reported rates. A rationale for this variance could be due to multiple factors including shifting structural, cultural, and economic factors over the last decade. In addition, the findings on anxiety differ even between public studies. This indicates, again, the necessity to standardize a risk screening measure for anxiety.

Overall, the sample of this study reported a higher level of happiness and lower levels of depressive symptomatology and anxiety compared to other national samples. This can conclude that the overall psychological well-being among the sample was more positive than other nationally documented data of psychological well-being. Nevertheless, study comparisons in this section found a lack of standardized measures of happiness, depression, and anxiety used across research. More research utilizing standardized measures is needed for policy and program planning to promote psychological well-being among the older population effectively. Following this overall trend in psychological well-being among the study sample, differences in the levels of psychological well-being among the soon-to-be-old, the young-old, and the old-old are now presented and discussed.

Differentials in Psychological Well-being among the Soon-to-be-old, the Young-old, and the Old-old

Differentials in psychological well-being among the three age groups of the soon-to-be old, the young-old, and the old-old were investigated again with a composite score of respective construct of happiness, depressive symptomatology, and anxiety.

With respect to happiness, bivariate analysis found slight differences among these three age groups but this age effect was non-linear with only a slightly higher score for the young-old

while the soon-to-be-old and the old-old were at the exactly same level of happiness score. Additionally, significant age group difference was not found for happiness in this study. In the multivariate additive analysis measuring age effect on happiness after controlling for all other variables, no significant age effect was found. Although not much research has examined the effect of age on happiness, findings from previous empirical research are inconsistent. Reports are found demonstrating positive age effect (e.g., Yang, 2008), negative age effect (e.g., Bennet, 1997), or no significant effect of age (e.g., Jopp & Rott, 2006) on later-life happiness or another relevant construct. This inconsistency in research findings may be explained by differences in age and racial compositions of samples, measurements, and a set of included covariates that can have different influences on the total age effect.

In sum, older adults of all age groups were happy in this study's sample although no significant difference was found among the groups. Thus, the current study does not dispel inconsistencies found in the existing research but the findings do indicate that people can stay happy as they age. This statement endorses the stress and coping model, which insists that people can maintain psychological well-being by effectively coping with age-related adversities. Further research is needed to obtain conclusive evidence on age effect on happiness.

In terms of depression, the bivariate analysis noted a slight but not statistically significant increase in depressive symptomatology as respondents aged from soon-to-be-old to old-old. Other studies evidenced that older adults' depression increases significantly with age but this significant relationship fades away in the multivariate analysis after taking other psychosocial factors into account (Burnette & Mui, 1997; Mirowsky & Ross, 1992; Roberts, Kaplan, Shema, & Strawbridge, 1997; Yang, 2007). These inconsistent results could be caused by differences in the operationalization and measurements of outcome variables, attributes and age composition of

samples, and sets of control variables included in the analyses. These differences limit the reliability as well as validity of the findings across research. Once again, this inconsistency in research findings emphasizes greater need to standardize the measures used in studies with older populations. In addition, the co-morbidity of depression with other health and mental problems is well evidenced in gerontology literature (e.g., Cairney, Corna, Veldhuizen, Herrmann, & Streiner, 2008; Caputo, 2001; Kvaal, McDougall, Brayne, Matthews, & Dewey, 2008). Thus, screening and treating depression early on is important to avoid the co-occurrence of other relevant symptoms. For this purpose, a standardized risk screening for not only clinical depression but also general depressive symptoms is also needed. A wide use of such a standardized and reliable screening in geriatric centers in particular will prevent the occurrence of other related symptoms and declining well-being among older adults at last.

Contrary to the findings on depressive symptomatology, anxiety slightly decreased with the advancement of age among these respondents in this research. The results demonstrate significant group differences only between the soon-to-be-old and the old-old. Buono, Urciuou, and De Leo's (1998) study in Italy and Lampinen, Heikkinen, Kauppinen, and Heikkinen's (2006) in Finland also demonstrate lower levels of anxiety among the older group compared to the younger group, although these differences are not significant. The study by Kant and D'Zurilla (1997) in the U. S. reports significant main effects of age. However their study reports more anxiety among older people than their younger counterparts. The study reported here does not resolve the inconsistencies on whether or not a significant relationship between age and anxiety exists and whether anxiety increases or decreases as individuals age but does add to the growing literature on this topic. Once again, the need for consistency in measurement instruments is demonstrated in order to develop targeted interventions if applicable.

When considering psychological well-being in total (happiness, depressive symptomatology, and anxiety) slight difference was observed descriptively among the soon-to-be-old, the young-old, and the old-old with most of these age group differences not significant. The only significant difference was found in the level of anxiety between the soon-to-be-old and the old-old. Thus, an age group comparison of psychological well-being only marginally supported this study's second hypothesis - there are differences in the level of psychological well-being (happiness, depressive symptomatology, and anxiety) among the soon-to-be-old, the young-old, and the old-old. However, no age effect was found on the three groups' psychological well-being in the multivariate analyses. Thus, the third to fifth hypotheses – age groups have a unique effect in predicting happiness (3a), depressive symptomatology (4a), and anxiety (5a) – were not supported.

This study was conceptually framed by the stress and coping model (Lazarus & Folkman, 1984), which insists that diverse stress factors and individual coping responses affect people's emotional well-being. With advancing age, older adults experience age-related declines and losses in multiple domains (Fung, 2005; Moos, Brennan, Schutte, & Moos, 2006). Psychological well-being is determined by many stress and coping factors that are encountered in the life course but not by age only. This logic behind the stress and coping model explains the importance of examining other factors than age that impact people's psychological well-being as they age. Although little variance is found in psychological well-being among the age groups studied here, factors that determine psychological well-being do differ across age groups, as demonstrated by the multivariate analyses conducted. In examining the determinants of psychological well-being, attention to older people's subjective perceptions of stress and coping is important as suggested by critical theory, another theory that can supplement the stress and

coping model. In an attempt to capture the subjective perceptions among older adults, this study analyzed subjective indicators (e.g., perceived health) in addition to objective indicators (e.g., functional limitations) and found the significant associations of those subjective perceptions with older adults' psychological well-being as discussed in the next section.

One of the most important contributions of this study is its demonstration of the difficulty in empirically measuring psychological constructs with consistency and the need to develop and encourage the use of standardized and reliable measures for psychological well-being. It is clear from these results that further research is needed that adds to a better and more consistent understanding of psychological well-being among older adults. As the older adult proportion of the population grows, understanding what factors improve or deter from psychological well-being among older adults are vital to creating and providing health, mental health, social support and recreation programs for this population.

Factors Associated with Psychological Well-being among the Soon-to-be-old, the Young-old, and the Old-old

In line with factors that improve or deter from older adults psychological well-being, this section discusses the associations of conceptual framework categories of socio-demographic characteristics, psychological well-being covariates in 1995, stress factors, and coping resources with the psychological well-being of the soon-to-be-old, the young-old, and the old-old.

Although the current study did not attempt to examine cohort effect, the findings from this study are presented from a birth cohort perspective where relevant in addition to age effect. For this purpose, cohort is defined as “the aggregate of all units that experience a particular demographic event during a specific time interval” (Preston, Heuveline, & Guillot, 2001 p.16). Although there are many types of cohort identified by an event or the time period, for the purpose of this

research, a birth cohort, the most frequently used, is the focus. Individuals who are born during the same period are destined to pass through the same historical, social, and structural events. Therefore, a birth cohort perspective adds cohort-specific historical and social contexts in discussing psychological well-being among different age groups.

Socio-demographic Characteristics

Among the five socio-demographic characteristics entered into multivariate analysis, gender, marital status, and education (less than high school) emerged as the significant predictors of psychological well-being of these age groups. However, as noted in Table 5.19, the significance of the sociodemographic predictors varied by age group and by outcome measure. For example, gender was significantly associated with depressive symptomatology and anxiety only among the young-old with older women more likely to report higher levels of depressive symptomatology and anxiety compared to older men in this group. This finding confirms previous research reporting that being female is among significant risk factors for depression in late life (Burnette & Mui, 1997; Roberts, Kaplan, Shema, & Strawbridge, 1997; Steffens, Pieper, Bosworth, MacFall, Provenzale, Payne et al., 2005) and anxiety (Kvaal, McDougall, Brayne, Matthews, & Dewey, 2008; Tran, 1997). Exactly why this gender variation is observed is not confirmed. Perhaps it is because the young-old women (born in 1927-1936; ages 65-74 in 2001) are in a transition into retired life – an important role change. As many women in this age cohort were not in the labor workforce compared to those in the younger cohort, they tend to have less access to private employment-related pension benefits (Pinquart & Sörensen, 2001; Wheeler & Giunta, 2009). The resulting lack of financial security, compared to older men in this cohort, may also explain their higher levels of depressive and anxiety status compared to older men. More study of gender differences is important in order to determine if gender serves as a reliable high

risk-screening characteristic for depression and/or anxiety among women new to retirement age. Marital status related to happiness among the soon-to-be-old and to depressive symptomatology among the young-old. This finding is common sense considering that widowhood is more prevalent as married couples age. And for the young-old, early widowhood is potentially more surprising and traumatic. Married soon-to-be-old reported a higher level of happiness, and married young-old presented a lower score of depressive symptomatology. These findings are consistent with prior research (Bennett, 2005; O'Rourke, 2008). The companionship and the availability of consistent support in married life can buttress married individuals against stressors (O'Rourke, 2008). In the study, a significant relationship between marital status and psychological well-being was not found for the old-old group. This insignificant result for the old-old group may be explained by their lower marriage rate compared to the soon-to-be-old and the young-old – once again, increased widowhood happens as couples age and members of the old-old cohort may be better adjusted to being a widow or widower than their younger counterparts. While 72% of the soon-to-be-old and 62% of the young-old were married in this sample, only 39 % of the old-old were married. This low marriage rate for the old-old may have decreased the significance of marital status on their psychological well-being. These findings imply the importance of programs to improve mental health, especially grief-counseling and support groups for the recently widowed, especially in the young-old group. Additionally, an observation of decreasing marriage rate along with a higher separation rate among the soon-to-be-old adult cohort calls attention to their emotional well-being in their later life.

The existing empirical findings endorse the observed significant relationships between education and psychological well-being in old age (Burnette & Mui, 1994; Murrell, Salsman, & Meeks, 2003; Pinquart & Sörensen, 2000; Roberts, Kaplan, Shema, & Strawbridge, 1997; Zhang

& Lui, 2007). What is of interest is that the relationship between education and psychological well-being in this study was inconsistent among the age groups. For example, for the soon-to-be-old having less than high school education predicted a lower level of depressive symptomatology where for the young-old it predicted a higher level of depressive symptomatology when compared to having high school diploma. This variance could relate to the lack of specificity in the operationalization of the education measure used here and for the soon-to-be-old group the lack of variance within the group (95% have more than a high school education). That said, the findings do confirm Pinguart and Sörensen's presentation of differences across research findings on educational effect on psychological well-being. Again, further research is needed here. It is also recommended that the operationalization of the education measure be more robust adding greater variability in the data analysis on level of education and its relationship to life activities and life accomplishments, both of which can contribute to a sense of well-being as individuals age.

The current study did not examine race due to oversampling of White in the dataset (White composes 91.6% of the sample). Nevertheless, as diversity continues to grow in the US older population, future study needs to consider race and ethnicity. Psychological well-being and its predictors may be diverse across different racial groups.

Psychological Well-being Covariates in 1995

Although this study did not intend to perform longitudinal research, it controlled for a previous stage of psychological well-being in 1995 as inspired by a life course perspective. The covariates of psychological well-being in 1995 demonstrated robust association with psychological well-being in 2001. As noted in Table 5.19, in all three models of psychological well-being (happiness, depressive symptomatology, and anxiety) the 1995 covariates of previous

levels of psychological well-being explained the largest portion of the variance compared to other categories of independent variables. These data verifies the essence of the life course perspective to examine individuals' development over years. Happiness and anxiety in 1995 predicted happiness and anxiety in 2001 for all the three age groups, and depressive symptomatology in 1995 predicted depressive symptomatology of the soon-to-be-old and the old-old in 2001. These findings are consistent with previous research (Bowling, Farquhar, & Grundy, 1996; Lampinen, Heikkinen, Kauppinen, & Heikkinen, 2006; Steffens, Pieper, Bosworth, MacFall, Provenzale, & Payne, et al, 2005). In addition, anxiety in 1995 also predicted depressive symptomatology of the young-old and the old-old in 2001. These facts indicate a high co-occurrence of depression and anxiety as endorsed by previous research (Beekman, Beurs, van Balkom, Deeg, van Dych, & van Tilburg, 2000; Cairney, Corna, Veldhuizen, Herrmann, & Streiner, 2008; Kvaal, McDougall, Brayne, Matthews, & Dewey, 2008). The present study examined the affect of previous levels of psychological well-being on well-being six years later and found lasting impact six years later. This finding presents an important implication for early interventions. For instance, current wellness and lifestyle programs engaged in may influence psychological well-being years later. Although this study did not define anxiety only as clinical anxiety disorders, the significant finding on a predictability of anxious feelings for depressive symptomatology signifies the necessity for early mental health screening and interventions to prevent the co-morbidity of other mental health problems.

Stress Factors

As stated, this study was conceptually framed by the stress and coping model (Lazarus & Folkman, 1984). This model provides researchers with a framework to explain how diverse stress factors older adults encounter and a use of coping resources impact their psychological

well-being. The present study entered the five stress factors into the model and found that four among those five varied significantly in their predictive value of psychological well-being among older adults. Those are perceived health, functional limitations, financial difficulties, and stressful life events.

The significance of perceived health and functional limitations as predictors of well-being is consistent with the body of previous research (Burnette & Mui, 1997; Harris et al., 2003; Lampinen et al, 2006; Mui & Burnette, 1996; Roberts et al., 1997; Steffens et al., 2005; Tran, 2007). For this study's respondents, a perception of declining health was significantly associated with a lower level of happiness and higher levels of depressive symptomatology and anxiety of the young-old as well as a higher level of depressive symptomatology among the soon-to-be-old. These study results provide a caution to the current political debate about possible cutting down Medicare costs by \$ 248 billion and Medicaid by \$72 billion and what programs will be cut. If the cuts deal with mental health and rehabilitation programs that aim at improving beneficiaries' health perceptions and functional capacities then the cuts to such programs risk undermining the psychological well-being of older adults. The significant associations of perceived health with psychological well-being suggest the importance of policy and programs to promote older adults' health status. Public and private interventions to prevent health disorders and encourage exercise and healthy diet will benefit older adults in maintaining their psychological well-being. Of interest, no significant association of perceived health with any dimension of psychological well-being among the old-old may point to their selective survival. Those living longer are healthy (more than the majority perceived their health as good or very good), and other factors rather than health may impact their psychological well-being. In contrast, deteriorated health status can be perceived as a threat and requires mental adjustments

and coping resources for the younger groups.

In terms of functional limitations, a higher number of limitations predicted less happiness and more depressive symptomatology and anxiety among the old-old. However, for the young-old, functional limitations were significantly related to a higher level of happiness. While the first finding is logical, the next is counterintuitive indicating perhaps issues with measure reliability. Another possible explanation from the data is the young-old group having the highest score of perceived social support among all three age groups with a hypothetical correlation between functional limitations being the reason for greater social support and, thus, greater happiness. As this young-old group has reached retirement age with reduced work and social and family responsibilities, their functional declines may not be problematic in their life space therefore not impacting their psychological well-being negatively. Functional limitations were related to all three dimensions of psychological well-being of the old-old. This suggests interventions such as exercise classes to prevent functional limitations targeting this oldest group. Especially for the old-old, despite this significant association of functional limitations with their psychological well-being, significant relationship between their perception of health and psychological well-being was not found in the study. These data indicate again the importance of taking into account the subjective perceptions of older adults in policy and program planning as suggested by critical theory. The objective indicators do not always coincide with respondents' subjective perceptions (Lawton, 1983).

As noted in the literature, this study replicates the significant relationship between financial problems and psychological well-being (Burnette & Mui, 1997; Pinguart, & Sörensen, 2000; Tran, 2007). Among the older adults in this sample, more financial difficulties predicted less happiness among the young-old and more anxiety among the old-old groups. The absence of

sufficient financial resources decreases older adults' life options that can enhance their psychological well-being. As national and state policy makers look to cuts in entitlement benefits including the Social Security program, they are advised to take into account the association between financial difficulties and psychological well-being among older adults. The data in this study endorses the importance of government income transfer program policy that relates to financial security among the elderly and their commensurate well-being.

While there are abundant studies showing significant relationships between stressful life events and a decline in psychological well-being in old age (Lee, Crittenden, & Yu, 1996; Mui, 1998, 2001; Mui & Kang, 2006; Mui, Kang, Chen, & Domanski, 2003, Tran, 2007), this study only found a significant association for stressful life events with anxiety among only the soon-to-be-old group. The bivariate analysis of this study indicated that the soon-to-be-old Baby Boomer cohort also experienced significantly more stressful life events than either of the other age groups. So this result may be an attribute of that variance among the cohorts. These three groups experienced different cultural and stressful life events and expectations (the Great Depression, WWII, the Korean War, Vietnam War, the 1960's Cultural Revolution, higher education, women's movement, women in the labor force etc.). Due to the Baby Boomer cohort's larger size, their life is possibly more stressful than their older counterparts' with more competitions throughout their life course (Yang, 2008). Thus the results in this study may be reflective of how these life experiences, unique to each cohort, influence individual and cohort perceptions of stressful life events. Based on what events the oldest in this sample group have lived through (The Great Depression and WWII) their perception of a stressful life event may vary greatly from that of a Baby Boomer (The Vietnam War and the cultural and women's revolution). Also their coping skills to deal with financial, cultural, and individual stressors may

be quite different one cohort to another. As the subjective interpretation of stressful events is vital here, the results of this study demonstrate the importance of looking into how “stressful” is interpreted at the individual level in psychological interventions. Again, this is the standpoint of critical theory that postulates the importance of incorporating people’s subjective values and interest in public policies and social services (Minkler, 1996; Moody, 1988).

As discussed above, age-related declines and losses can predict lower well-being. In summing the effects of stress factors on psychological well-being among older adults, it can be emphasized that an examination of the full model involving possible age-related adversity variables is important. Abundant literature is available confirming that older adults can overcome age-related changes and age well despite multiple adversities (e.g., Chapman, 2010; Everingham, Lui, Bartlett, Warburton, & Cuthill, 2010; Laditka, Corwin, Laditka, Liu, Tseng, Wu et al, 2009). In this adjusting process, coping resources are critical (Jopp and Smith, 2006). This is a postulation of the stress and coping model adopted here. The next section discusses how coping resources differed in a prediction of psychological well-being of the soon-to-be-old, the young-old, and the old-old after adjusting for socio-demographic characteristics, the 1995 psychological well-being covariates, and stress factors.

Coping Resources

Among the coping resources studied here, external locus of control, perceived social support, social contact, and voluntary activity all emerged as significant predictors of psychological well-being of older adults in the sample. This validates the importance of including coping resources in this study’s conceptual framework. That said, once again these predictors varied in significance by age group and outcome. For example, external locus of control predicted a higher level of happiness among the soon-to-be-old and a lower level of

anxiety among the young-old. This significant association of external locus of control with anxiety confirms empirical findings from international research, which found the external locus of control as the only common factor in predicting both pure major depressive disorder and pure anxiety disorders among community-dwelling Netherlanders (Beekman, Beurs, van Balkom, Deeg, van Dych, & van Tilburg, 2000). The significant association of external locus of control with psychological well-being suggests the importance of changing life goals to more emotion-focused goals that are attainable in old age as suggested by socio-emotional selectivity theory, which reinforced a theoretical framework of this study. When older adults become aware that their current goals are unattainable due to reasons beyond control such as environmental and resource constrains, they are likely to reorganize goal hierarchies favoring more emotionally meaningful goals (Fung, 2005; Fung & Carstensen, 2004; Fung, Carstensen, & Lutz, 1999). This emotion-focused coping may explain why older people maintain their psychological well-being, as found here. Social workers can help this goal reprioritization process through individual counseling and group work based on the strength approach. This perspective of emotion-focused goal change also indicates the significance of taking into consideration the subjectivity of older adults as claimed by critical theory.

The body of existing research indicates significant positive associations of social contact (Jopp & Rott, 2006; Newsom, Rook, Nishishiba, Sorkin, & Mahan, 2005; Pinquart & Sörensen, 2000) and perceived social support (Beekman et al 2000; Mui, 1996b, 1998; Mui, 200; Oxman & Hull, 2001) with psychological well-being in older adults. This study confirms this association with data demonstrating a higher perceived social support score predicting a higher level of happiness among the soon-to-be-old and the old-old, a lower level of depressive symptomatology among the soon-to-be-old and the old-old, and a lower level of anxiety among

the soon-to-be-old. In addition, a higher number of social contacts predicted a lower level of depressive symptomatology among the old-old. These findings suggest social programs provided by senior centers and church groups as well as continuing education in school systems and community colleges, all of which provide rewarding and potentially fulfilling social contact activities.

A positive relationship of older adults participating in volunteer activities with psychological well-being in later life is evidenced by previous studies (Greenfield & Marks, 2004; Morros, 2002; Morrow-Howell, Hinterlong, Rozario, & Tang, 2003). Contrary to these reports, this study found that volunteer activities predicted a significantly lower level of happiness among the old-old and had no explanatory value among the other age groups on any of the well-being outcomes. This inconsistency is interesting as the data indicate that 46% of all respondents on average were engaged in voluntary activities, including 42% of the old-old cohort. This distribution provided robust analysis for variance in this predictor's explanatory value. What is most interesting is that in the only instance where participation in voluntary activity was a significant predictor of psychological well-being, the direction of that association was contrary to earlier studies: i.e. old-old respondents who engaged in voluntary activities reported lower levels of happiness. This significant negative association for the old-old may be explained by their declining health conditions. The old-old's engagement in volunteer activities despite their declining health might impair their well-being. Volunteer activity and perceived health were mildly positively correlated ($r = .21, p < .0001$) among the entire sample. So perhaps the decline in health and an associated decline in volunteer activity among the eldest respondents also reduced the happiness that they perceived from volunteering. This is certainly worthy of study as volunteering can be done in so many different ways – many of them from home – where

decreasing health may not be a factor in participation. And volunteer activities of low intensity can be beneficial especially to the oldest group. In addition, frequency of volunteer activity could matter although it was not examined in this study. Another explanation of this inconsistency with the previous findings could be a definition of volunteer activities measured in this study. This study operationalized volunteer activities as volunteer work for a church, hospital, library, scouts, or other organizations. If this definition was expanded to include other activities such as intergenerational support and community work, positive association with their psychological well-being might be found. Jirovec and Hyduk (1998) found that the type of volunteer organization is associated with the well-being among older volunteers. By contrast, Morrow-Howell, Hinterlong, Rozario, and Tang (2003) found no significant association between the type of volunteer organizations and well-being in their sample. This discussion points to the importance of taking into account study participants' subjectivity about what the volunteer activity means to them, something advocated for by critical theory.

With age-related setbacks, as shown in this study, older adults face multiple stress factors. However, the data in this study demonstrate positive psychological well-being (higher happiness, lower depressive symptomatology, and lower anxiety) among this study sample. The data indicate that multiple coping resources possibly offset stress factors as endorsed by the stress-coping model. The data present that for the **soon-to-be-old**, the significant stress factors were a perception of deteriorated health (predicting more depressive symptomatology) and stressful life events (predicting more anxiety), while their coping resources identified as significant were more external locus of control (predicting more happiness) and perceived social support (predicting more happiness, less depressive symptomatology, and less anxiety). For the **young-old**, a perception of declining health (predicting less happiness and more depressive

symptomatology, and more anxiety), functional limitations (predicting more happiness), and financial difficulties (predicting less happiness) were significant stress factors, whereas external locus of control emerged as the significant coping resource predicting less anxiety. For the **old-old**, functional limitations were significantly associated with all three dimensions of psychological well-being (less happiness, more depressive symptomatology, and more anxiety). For this group, financial difficulties also predicted more anxiety. Regarding their coping resources, perceived social support was significantly related to more happiness and less depressive symptomatology, and more social contacts was associated with less depressive symptomatology. Thus, significant factors associated with psychological well-being mostly differed among these three age groups.

Only the two factors of happiness in 1995 and anxiety in 1995 were significant and common among these three age groups. Therefore, the final and sixth hypotheses – the predictors of happiness (6a), depressive symptomatology (6b), and anxiety (6c) differ among the soon-to-be-old, the young-old, and the old-old - were partially supported. These results point to multidimensionality of stress factors and coping resources across old age groups and the importance to analyze how multiple stress and coping factors impact psychological well-being along the continuum of aging as suggested by the stress and coping model.

Significance of This Study

As an increase in life expectancy has boosted the pace of aging in society, there is a growing need to research the quality as well as the quantity of later life and develop policies and programs to promote quality life among this expanding older population. In assessing the quality of life, in addition to a measurement of objective life indicators, this study suggests that an appraisal of subjective perceptions of well-being are equally important (Ball et al., 2000; Lawton,

1999; Steverink, Lindenberg & Ormel, 1998; Witkin & Altschuld, 1995) as these indicators and perceptions can determine the extent to which society has met the needs of older citizens. This study contributes to knowledge of subjective, psychological well-being among older adults by assessing participants' subjective feelings about their well-being along with objective indicators. It applied variables that examined participants' subjective perceptions about psychological well-being including such factors as perceived social support and perceived health in order to add a more personal element to more frequently used objective indicators. This study's focus on participants' subjectivity was guided by critical theory (Hooyman & Kiyak, 2011; Moody, 1988) that stands on the premise that knowledge should involve the subjective views of study participants in its definition (Hooyman & Kiyak). The importance of paying heed to participants' subjectivity and personal perception is also suggested by socio-emotional selectivity theory. This selectivity theory encourages researchers to pay more attention to subjective, emotional meanings that participants have. As discussed above, this study found significant predictive values of respondents' subjective perceptions of health and social support in explaining their psychological well-being. In addition, external locus of control, the respondents' subjective feelings about control, emerged as a significant coping factor predicting their psychological well-being. Thus, as proposed by theories, these results confirm the importance of examining participants' subjective perceptions in studies of psychological well-being.

Psychological well-being is a multifaceted construct (Diener, Scollon, & Lucas, 2003) that cannot be understood from a single perspective. This multiplicity of the construct suggests an examination of psychological well-being from multiple perspectives. However, many previous studies focus only on one dimension of psychological well-being (e.g, Jang, Mortimer, Haley & Graves, 2004; Yang, 2007; Yang, 2008) while others have examined the multiplicity of

this construct by investigating multiple dimensions of psychological well-being (e.g., Kvaal, McDougall, Brayne, Matthews & Dewey, 2008; Lampinen, Heikkinen, Kauppinen, & Heikkinen, 2006). Bradburn (1969) insists that psychological well-being can best be measured by two independent dimensions of positive affect and negative affect. However, in assessing psychological well-being, possible combinations of these affects are many. The infinite combinations of dimensions urge further research on psychological well-being from a different set of perspectives. Clearly the unexplained variance in the models tested in this study indicate that even with the categories of predictors included here, this combination left much variance unexplained. Despite that reality, this study's examination of psychological well-being from the three perspectives of happiness, depressive symptomatology, and anxiety expands the existing knowledge on psychological well-being in old age by uniquely investigating this unique combination of mostly positive (happiness) and negative (depressive symptomatology and anxiety) psychological well-being within the conceptual framework of stress and coping model. No other research that examined this combination of happiness, depressive symptomatology, and anxiety is available.

As stated previously, few studies have explored how psychological well-being is similar or different among different age groups including the Baby Boomer cohort. Perhaps one of the most important groups to be studied is the soon-to-be-old Baby Boomers (born between 1946 and 1964) whose entry into old age is just beginning. The Baby Boomer age cohort differs from their older counterparts in many aspects. This cohort of unprecedented number (78 million) is more racially diverse and better educated and anticipates longer life span than the current older groups (Administration on Aging, 2003; Federal Interagency Forum on Aging-related statistics, 2010; U.S. Census Bureau, 2006). In addition, the large size of this cohort spurred competitions

to enter schools of higher learning and the labor market, and as a result, their strains to accomplish expected economic success and family life increased (Yang, 2008). This uniqueness of the Baby Boomer generation calls attention to the need for greater research on understanding their psychological well-being as they age. Differences in characteristics between the Baby Boomers and the current older generations create challenges for further research, public policy and social services. The present study contributes to embedding this knowledge gap by adding knowledge on how uniquely the Baby Boomers' psychological well-being is shaped.

This was a cross-sectional study. Although a longitudinal design of research allows an examination of both cohort and period effects in addition to the effect of age, a study of cross-sectional design is free from period effect as it examines different age groups in the same period. In addition, a study of cross-sectional design was able to capture a wide age range of study participants, which facilitated an analysis of age effect.

In sum, this study presents a unique contribution to an understanding of psychological well-being among older adults. As people live longer, an issue of well-being and quality of life becomes important. For the social work profession, this study contributes an understanding of psychological well-being in old age and what composes older adults' stress factors and coping resources in particular. This knowledge can be used to enhance the types and quality of programs and services to this population in order for older adult clients to maintain or even promote psychological well-being in later life. From a stress and coping standpoint, the data in this study confirms the importance of policy and program interventions for health maintenance including functional health, income security, and coping with stressful life events as those emerged as significant stress factors affecting psychological well-being of older adults. This study also found that in order to strengthen older adults' coping resources, interventions targeted at external locus

of control, perceived social support, social contact, and voluntary activity are necessary as they significantly related to the psychological well-being of the older adults in this sample.

Implications

This section summarizes implications discussed in individual sections above.

Implications from the perspectives of social work practice as well as social policy development will be presented here within the framework of the stress and coping model. Within the conceptual framework of stress-coping, this study grouped factors associated with psychological well-being among older adults into four categories: socio-demographic characteristics; the 1995 psychological well-being covariates; stress factors; and coping factors.

In terms of socio-demographic characteristics, this study found significant associations of gender, marital status, and education with psychological well-being among older adults. Being a woman was significantly associated with more depressive symptomatology and anxiety for the young-old group. The young-old women (ages 65-74) in a transition into retired life may be more depressed and anxious than their male counterparts due to older women's less access to pension benefits. This indicates the possible importance of policies and programs to enhance older women's financial security. Being married was a significant predictor of more happiness among the soon-to-be-old and less depressive symptomatology among the young-old.

Widowhood is more common as married couples advance to the old-old age group. However, early widowhood is unexpected for many young-old, perhaps making this life transition more emotionally devastating. This indicates that grief counseling and support group access for recently widowed young-old adults maybe an effective intervention to enhance their psychological well-being. Regarding education, findings from this study were inconsistent.

While having less than high school education predicted less depressive symptomatology among

the soon-to-be-old, conversely, it predicted more depressive symptomatology among the young-old. This inconsistency in findings might be explained by the lack of specificity in operationalization of the education measure. More reliable education measure is suggested in future studies.

With regard to the 1995 psychological well-being covariates, happiness in 1995 and anxiety in 1995 emerged as the common factors predicting the current happiness and anxiety in 2001 respectively for all three groups. On the other hand, depressive symptomatology in 1995 predicted the current depressive symptomatology in 2001 among just the soon-to-be-old and the old-old only. These findings endorse the importance of early interventions including wellness and lifestyle programs even in middle adulthood as they may have lasting impacts on psychological well-being years later. Anxiety in 1995 also predicted depressive symptomatology in 2001 among the young-old and the old-old. Therefore, early screening and care for anxiety may also be effective to prevent the co-occurrence of other mental issues in later life.

Among stress factors, perceived poor health was significantly associated with less happiness, more depressive symptomatology, and more anxiety among the young-old. It also related to more depressive symptomatology of the soon-to-be-old. Functional limitations were significantly associated with less happiness and more depressive symptomatology and anxiety among the old-old. The significant associations of perceived health and functional limitations suggest the importance of policy and programs to promote older adults' health and functional status including exercise and healthy diet programs. Exercise programs targeting all age groups will be beneficial for health promotion and disease prevention while maintaining and maximizing physical functioning. In addition, financial difficulties were significantly associated with less happiness among the soon-to-be-old and more anxiety among the old-old suggesting

the importance of income transfer programs in both the public and the private sector. These findings combined are cautionary for those proposing cuts in benefits from Social Security, Medicare, and Medicaid. The final significant stress factor was stressful life events. Stressful life events were associated with more anxiety among the old-old group. What is critical here is the subjective perception of “stressful” events. It is important for gerontology social workers to assess how stressful events are interpreted by individual clients when they plan interventions.

With regard to coping resources, less external locus of control predicted more happiness among the soon-to-be-old and less anxiety for the young-old. Based on these findings, social workers are encouraged to learn how external locus of control is subjectively perceived by individuals in order to provide effective support at individual levels for enhancing this coping resource. Another significant coping resource emerged in this study was perceived social support. It was significantly related to more happiness and less depressive symptomatology among the soon-to-be-old and the old-old and less anxiety among the soon-to-be-old. The social contact predictor was also significantly associated with less depressive symptomatology for the old-old only. These findings suggest that programs and services to enhance social networking and mutual support systems may be instrumental in improving the psychological well-being of older adults. Such social contact/support resources include socialization programs provided by church and senior center locations as well as continuing education classes at community colleges, public schools and community libraries. Volunteering activity predicted less happiness of the old-old, a bit of a surprise based on other studies (Greenfield & Marks, 2004; Morrow-Howell, Hinterlong, Rozario, & Tang, 2003). The reason for this finding is not known. An assumption is that declining health among the old-old may affect psychological well-being for the old-old who are still attempting to engage in volunteer activity at the level they were able to prior decreased

health. This presents an important implication for a development of home-based, less intensive volunteer activity programs for the oldest group.

In sum, factors significantly related to psychological well-being fall in multiple domains, and those factors differ among the age groups. It is clear from this study that when it comes to predicting psychological well-being, the older American population is not homogeneous. These findings on significant predictors from each component of the stress and coping model reinforce the necessity for development and delivery of multi-component interventions unique to each age group. When looking to the most significant category of predictors, the 1995 outcome covariates, it appears that programs aimed at improving happiness and reducing depressive symptomatology and anxiety at earlier life stages may well benefit psychological well being in later life.

Age-group specific policy, program, and practice need to be developed with an entry of the Baby Boomers into old age, who possess characteristics distinct from the current older groups. Looking at significance of all the 1995 psychological well-being covariates for the soon-to-be-old, lifestyle programs to balance work and life and early screening of depression and anxiety at their workplace may be beneficial to the Baby Boomer soon-to-be-old group. This section summarized implications for policy and programs for the three groups of the soon-to-be-old, the young-old, and the old-old. Implications for future research will be discussed in the later section.

Limitations of the Study

This study of psychological well-being among older adults incorporates limitations attributable to the nature of the secondary data analysis. First, the sample studied from the Aging, Status, and Sense of Control (ASOC) database used for this study was mostly White. As previously noted, this bias did not allow the investigator to explore racial and ethnic diversity in psychological well-being among the U.S. older population. Second, this dataset does not contain

data for centenarians. As this group is the most rapidly growing segment of the U.S. population, an examination of centenarians is critical to understand psychological well-being in the oldest age. Third, this research urged attention to the subjective perceptions of a respondent in describing his or her well-being. However, subjective variables contained in the ASOC dataset only incorporate a respondent's feelings of happiness, depressive symptomatology, and anxiety during the seven days prior completing the research survey. Responses in this limited time frame may be affected by a study participant's "momentary mood state" or "trivial contextual events" (e.g., finding a dime just before responding to a research question) (Schwarz & Strack, 1999) and do not reflect his or her longer-term subjective perceptions. Fourth, personality may influence people's appraisal of stressors, of respondents' coping (Okun, 2006), and of their psychological well-being (Khalil & Okun, 2002). Because the dataset does not contain personality-related factors other than sense of control variables, these personality characteristics were not controlled for. Fifth, in the analyses of this study, dichotomous dummy coding for some of nominal and ordinal measures (education, marital status, health insurance, social participation, and volunteering activity) were used. Three variables were dummy coded in the ASOC data set (health insurance, social participation, and volunteering activity) and the investigator condensed two (education and marital status) for the purpose of data analysis. The dummy coding limits the variance in these respondents' characteristics. Grouping age measure by age group as an ordinal measure also reduces the variance in respondent age in terms of its predictive strength in the overall regression models. Recognizing this reality, the age group variable was introduced in this study in order to achieve a goal of studying age group differences in psychological well-being. Although this study contributes to our understanding of well-being in advancing and old age, it is important to note these study limitations.

Suggestions for Future Research

This study's limitations and findings present many significant implications for future research. Future research should include populations of other race rather than White in order to reflect the growing diversity in the U.S. aging population. Likewise, sampling techniques need to incorporate the centenarian group of elderly as well as aging Baby Boomers. That said, incorporating the centenarian group may be a challenge for studies of community dwelling elderly. As stated earlier, the multidimensionality of the construct of psychological well-being suggests a use of many different combinations of perspectives and variables. Thus, studies that investigate dimensions other than happiness, depressive symptomatology, and anxiety will expand insight into older adults' psychological well-being. Socio-emotional selectivity theory posits that older adults proactively select to attain emotional goals (Carstensen, Fung, & Charles, 2003). Thus, adding more personal and emotional variables, such as self-esteem, morale, and emotional goals, will expand scholars and practitioners understanding of psychological well-being among older adults. The gerontology literature evidences older adults as active agents of positive aging outcomes by actively seeking emotional meanings in life (Carstensen, Fung, & Charles; Fung, 2005). Research and service programs reflecting this active point of view on aging will contribute to overcoming ageism as a negative societal and political understanding of the elderly as declining and dependent. It will also aid in shifting the current focus on problem-oriented interventions toward strength-based support for the older population.

This study aimed to assess age effect that represents internal developmental trajectories of older individuals (Yang, 2007). Life course perspective captures both micro-level analysis with a focus on individual aging (Hooyman & Kiyak, 2011) and life trajectories and macro-level analysis that explains aging in social-structural contexts (Hagestad, 1999). As inspired by this

perspective, cohort analysis is also suggested as a means for elucidating psychological well-being among different age groups. This analysis adds an examination of cohort effect that explains exogenous social influences on psychological well-being, which are common to specific cohorts. In this study, for instance, gender and marital status emerged as significant factors in explaining psychological well-being among the soon-to-be-old and the young-old only. Gender role and marriage or family styles have been changing as shaped by societal and structural influences of cohort and history. The cohort can explain the contexts for human development and structural access to opportunity (Hooyman & Kiyak). Thus, these significant findings from this study suggest to explore later-life psychological well-being from a cohort perspective.

In addition, cross-sectional research can measure age group differences in psychological well-being at a fixed point in time. For further understanding of changes in psychological well-being over time, a longitudinal analysis is recommended as it captures real-time life course changes.

Lastly, as reported in earlier sections, research findings from prior empirical studies are inconsistent including the impact of age on psychological well-being. One rationale for this inconsistency across research is a lack of standardized measures of psychological well-being. Standardized and reliable measure(s) of psychological well-being needs to be developed, and its consistent use should be encouraged for future gerontology research. Utilization of standardized, reliable measurement can compare psychological well-being among overall older populations as well as subgroups of the older populations and contribute to developing targeted policy and programs to enhance psychological well-being of those populations. Future research is needed to obtain conclusive evidence on psychological well-being among older adults. Based on such research, policy and program interventions to promote psychological well-being in later life

should be developed and executed effectively. The next and concluding section will sum up the importance of reflecting on psychological well-being among older adults in future research, policy, program, and social work practice from a new gerontology paradigm of productive aging.

7. CONCLUSIONS

In concluding this study, three most important findings are highlighted, and implications for the future aging society will be summed up from a productive aging perspective. First, this study demonstrates that the three age groups analyzed here maintained highly positive psychological well-being presenting high scores on happiness and low scores for depression and for anxiety. The findings on the age effect on psychological well-being do not evidence significant results indicating that the soon-to-be-old, the young-old, and the old-old did not significantly differ in the levels of psychological well-being. Thus, this study demonstrates that old age is not necessarily an indicator of declining psychological well-being, endorsing a reality that individuals can maintain their psychological well-being into old age. This finding on no significant age effect on psychological well-being reverses the negative view in the western world of aging as a time of declining life satisfaction and personal well-being. As America's older population continues to grow, quality of life rather than quantity of life is becoming an important concern. The findings here contribute to an understanding of older Americans as having a positive late-life identity in a rapidly aging society.

Second, the results show that each age group's psychological well-being determined by different factors. Among all the significant predictors identified in previous chapters, only two covariates of 1995 psychological well-being (happiness in 1995 and anxiety in 1995) were common among the three groups in predicting current psychological well-being in 2001. All other factors were significant for one or two age groups only. One can conclude, therefore, that age-group specific attention is critical in gerontology research, policies, and programs.

Third, the findings reveal that significant factors associated with psychological well-being fall in multiple areas. Psychological well-being is determined by diverse stress factors

and many coping factors that are encountered in the life course. Combined with the statement above, these results suggest the necessity for multi-component interventions unique to each age group to promote and maintain psychological well-being among older adults.

A future projection for the U.S. indicates that one in five will be over age 65 by 2030 (Wheeler & Giunta, 2009). This rapid expansion of the older population evokes social hazard (Biggs, Phillipson, Leach, & Money, 2007) pinpointing the “economic burden of aging” (Knickman & Snell, 2002, p.849) in terms of an increase in social security payments, medical care insurance costs, social service needs, and long-term care costs as well as new demands for diverse needs. Current older adults are living longer and healthier, and the Baby Boomer cohort, in particular, is more educated, financially more secure, and potentially ready for civic engagement in the form of productive aging (Biggs, Phillipson, Leach, & Money). Productive aging views older adults as “social capital” (Fernández-Ballesterós, Zamarron, Díez-Nicolás, López-Bravo, Molina, & Schettini, 2011, p.205) or economic resources (Hinterlong, 2008; Kaye, Butler, & Webster, 2003) in producing goods and services for society.

Nevertheless, in discussing future productive aging, the current study presents interesting and important findings in relation to psychological well-being among older adults. Although the study examined productive aging relevant variables – social participation and volunteer activity, those independent variables were not associated with positive psychological well-being of the study sample. In terms of social participation, nearly the majority of the respondents in all age groups reported having participated in community service, neighborhood, or political organizations. This activity was not, however, significantly associated with their psychological well-being. Regarding volunteer activity, although nearly the majority of all respondents were engaged in volunteer activity, no positive association of volunteer activity with

their psychological well-being was found in this study. In fact, among the oldest, volunteer activity related to a lower level of happiness. Even though this variable of volunteer activity denoted the limited types of volunteer activities in this study, this finding is quite a surprise.

Kaye, Butler, and Webster (2003) contend that a productive aging perspective underscores two distinct concepts of 1) an “external, utilitarian view” emphasizing concrete societal contributions to individuals, families, groups, organizations, or communities; and 2) an “internal, affective view” emphasizing positive impact on well-being and quality of life of older adults (p. 200). This internal, affective view reinforces the importance of examining older adults’ subjective perceptions of the effects of social participation and volunteer on their psychological well-being as emphasized by the critical theory. The finding of no positive association of productive activities with psychological well-being as reviewed above insists that studying and incorporating the subjective views of older adults in productive aging process is of great importance.

In addition, despite the current debate over federal cuts to the entitlement programs including Medicare and Social Security, many older adults and their caregivers are still under threat of income insecurity, unmet health and social needs, and isolation (Wheeler & Giunta, 2009). As noted in the finding chapter, even though only about 10% of older adults in this sample perceived their health as poor or very poor, that perception was significantly associated with all of the study outcomes. Financial difficulties were also significantly related to less happiness and more anxiety for some respondents. These study findings, combined with the realities of older adults as stated, raise cautions that abrupt policy shift toward reduction in federal spending can engender older adults’ psychological well-being.

In view of rapid expansion of the older population and mounting public costs for this

population, productive aging presents an important insight toward new gerontology policy and programs encouraging policy makers to refine their problem-oriented perceptions of aging toward a productive aging and economic resource perspective. However, the findings from the study presented here emphasize the need for more research on subjective, psychological well-being among older adults. Further understanding of this aspect of aging is vital in determining the extent to which policy and public and private sector programs are meeting and will meet the needs of the older population.

In terms of gerontological social work, traditionally, social work interventions had a tendency to address individual needs without consideration of the larger social and economic contexts of an aging society (Wheeler & Giunta, 2009). Alternatively, a framework of productive aging can provide a broader perspective encompassing individual social work interventions such as helping older clients engage in their selected productive activities based on the strength approach. Gerontology social work underlying productive aging may capture the strengths and potential resources of older adults. However, more social work interventions focusing on such as preventive health, income security, social networking, and lifelong learning are necessary to help older adults be prepared to be productive before policy and gerontology social work shifts to a productive aging paradigm.

The study findings indicating that psychological well-being can be maintained in old age provides a promising message to aging societies internationally. Aging of the population is a world-wide phenomenon. One country example is Japan, this researcher's home country, which is most rapidly aging in the world and was hit by triple disasters of earthquake, tsunami, and radioactive contamination this year. Older adults affected by the disaster are many. Their psychological well-being is declining as affected by unexpected experiences of multiple losses

such as housing, property, and loved ones. On the other hand, a group of affected older women opened a meal center in temporary housing in the disaster-hit area and restored their well-being in this process. Borrowing the research findings here, one can insist that “older adults’ effective coping with stress can make a difference in improving their psychological well-being in their extended life.”

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APPENDICES

The primary goal of this study is to explore psychological well-being of the three age groups of the soon-to-be-old, the young-old, and the old-old and identify factors associated with their psychological well-being within the conceptual framework of the stress and coping model. To enhance an understanding of psychological well-being in old age, the following six additional analyses were conducted. This appendix section provides the tables of findings from those additional analyses.

- Appendix A.** Factors Associated with Psychological Well-being (Happiness) among the Soon-to-be-old, the Young-old, and the Old-old (Additive and Interactive Models Examining the Age Effect Using a Variable of Year Born)
- Appendix B.** Factors Associated with Psychological Well-being (Depressive Symptomatology) among the Soon-to-be-old, the Young-old, and the Old-old (Additive and Interactive Models Examining the Age Effect Using a Variable of Year Born)
- Appendix C.** Factors Associated with Psychological Well-being (Anxiety) among the Soon-to-be-old, the Young-old, and the Old-old (Additive and Interactive Models Examining the Age Effect Using a Variable of Year Born)
- Appendix D.** Psychological Well-being among the Soon-to-be-old, the Young-old, and the Old-old in 2001 and 1995
- Appendix E.** Differences in Psychological Well-being among the Soon-to-be-old, the Young-old, and the Old-old in 2001 and 1995 by Gender
- Appendix F.** Difference in Psychological Well-being among the Soon-to-be-old, the Young-old, and the Old-old in 2001 and 1995 by Marital Status

Appendix A. Factors Associated with Psychological Well-being (Happiness) among the Soon-to-be-old, the Young-old, and the Old-old (N = 746) (Additive and Interactive Models Examining the Age Effect Using a Variable of Year Born)

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Socio-demographic variables</u>		
Gender (1=Male)	-.06 (.24)	.04 (.24)
Marital status (1=Married)	.60 (.34)***	.59 (.35)
Living with others	-.33 (.36)	-.31 (.36)
Education		
Less than high school ^a	.10 (.34)	-.05 (.35)
Post high school ^a	.05 (.24)	-.01 (.24)
<u>Psychological well-being in 1995</u>		
Happiness in 1995	.33 (.04)*****	.33 (.04)*****
Depressive symptomatology in 1995	-.04 (.02)	-.04 (.02)
Anxiety in 1995	-.001 (.02)	-.002 (.02)
<u>Stress factors</u>		
Perceived health	-.42 (.12)***	22.37 (22.41)
Physician use	-.24 (.22)	3.99 (40.73)
Functional limitations	-.07 (.06)	-10.32 (11.24)
Financial difficulties	-.21 (.26)	-13.17 (25.69)
Stressful life events	.03 (.10)	-13.77 (17.80)
<u>Coping resources</u>		
Health insurance (1=Yes)	-.51 (.56)	-85.84 (118.05)
Personal income	-.04 (.10)	6.78 (18.63)
Sense of control		
External locus of control	.22 (.07)**	-28.56 (12.27)*
Internal locus of control	.10 (.14)	26.57 (25.55)
Social support		
Perceived social support	.92 (.17)*****	26.85 (26.81)
Social contact	.77 (.28)**	34.24 (49.12)
Social participation (1=Yes)	.22 (.22)	-30.21 (40.18)
Voluntary activity (1=Yes)	-.05 (.22)	-70.81 (.39.40)
<u>Age</u> (year born)	-.03 (.01)*	-.16 (.08)

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, ***** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

^a Reference groups: high school diploma.

Appendix A. Factors Associated with Psychological Well-being (Happiness) among the Soon-to-be-old, the Young-old, and the Old-old (Additive and Interactive Models Examining the Age Effect Using a Variable of Year Born) (Continued)

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Interaction terms</u>		
Perceived health*Age		-.01 (.01)
Physician use*Age		-.002 (.02)
Functional limitations*Age		.005 (.006)
Financial difficulties*Age		.007(.01)
Stressful life events*Age		.007 (.009)
Health insurance (1=Yes)*Age		.04 (.06)
Personal income*Age		-.004 (.01)
Sense of control		
External locus of control*Age		.01 (.006)*
Internal locus of control*Age		-.01 (.01)
Social support		
Perceived social support*Age		.01 (.01)
Social contact*Age		-.02 (.03)
Social participation (1=Yes)*Age		.21 (.53)
Voluntary activity (1=Yes)*Age		.04 (.02)
Intercept	59.52 (22.22)**	306.74 (159.05)
<i>R</i> ² total	.309*****	.329*****

Note. * $p < .05$, ** $p < .01$, ***** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

Appendix B. Factors Associated with Psychological Well-being (Depressive Symptomatology) among the Soon-to-be-old, the Young-old, and the Old-old (N=746) (Additive and Interactive Models Examining the Age Effect Using a Variable of Year Born)

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Socio-demographic variables</u>		
Gender (1=Male)	-.82 (.44)	-.99 (.45)*
Marital status (1=Married)	-2.35 (.64)***	-2.20 (.65)***
Living with others	.90 (.66)	.78 (.67)
Education (High school diploma)		
Less than high school ^a	.04 (.64)	.14 (.65)
Post high school ^a	-.69 (.44)	-.66 (.44)
<u>Psychological well-being in 1995</u>		
Happiness in 1995	.01 (.07)	.02 (.07)
Depressive symptomatology in 1995	.25 (.04)****	.26 (.04)****
Anxiety in 1995	.18 (.04)****	.19 (.04)****
<u>Stress factors</u>		
Perceived health	1.09 (.23)****	-88.01 (41.97)*
Physician use	.12 (.42)	-6.89 (76.29)
Functional limitations	.35 (.12)**	28.73 (21.05)
Financial difficulties	.24 (.26)	3.54 (48.11)
Stressful life events	-.03 (.19)	18.47 (33.34)
<u>Coping resources</u>		
Health insurance (1=Yes)	-.63 (1.05)	215.29 (221.10)
Personal income	.24 (.19)	-3.50 (34.89)
Sense of control		
External locus of control	-.21 (.13)	6.17 (22.99)
Internal locus of control	-.30 (.26)	-18.87 (47.85)
Social support		
Perceived social support	-1.43 (.31)****	74.12 (50.22)
Social contact	-.66 (.52)	-203.08 (92.0002)*
Social participation (1=Yes)	-.48 (.41)	105.98 (75.27)
Voluntary activity (1=Yes)	.44 (.40)	-15.83 (73.79)
<u>Age</u> (year born)	.001 (.02)	.09 (.15)

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

^a Reference groups: high school diploma.

Appendix B. Factors Associated with Psychological Well-being (Depressive Symptomatology) among the Soon-to-be-old, the Young-old, and the Old-old (Additive and Interactive Models Examining the Age Effect Using a Variable of Year Born) (Continued)

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Interaction terms</u>		
Perceived health*Age		.05 (.02)*
Physician use*Age		.004 (.04)
Functional limitations*Age		-.01 (.01)
Financial difficulties*Age		-.002(.02)
Stressful life events*Age		-.01 (.02)
Health insurance (1=Yes)*Age		-.11 (.11)
Personal income*Age		.002 (.02)
Sense of control		
External locus of control*Age		-.003 (.01)
Internal locus of control*Age		.01 (.02)
Social support		
Perceived social support*Age		-.04 (.03)
Social contact*Age		.10 (.05) *
Social participation (1=Yes)*Age		-.06 (.04)
Voluntary activity (1=Yes)*Age		.01 (.04)
Intercept	5.33 (41.41)	-176.02 (297.90)
<i>R</i> ² total	.362*****	.375*****

Note. * $p < .05$, ***** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

**Appendix C. Factors Associated with Psychological Well-being (Anxiety) among the
Soon-to-be-old, the Young-old, and the Old-old (N = 746)
(Additive and Interactive Models Examining the Age Effect Using a Variable of Year Born)**

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Socio-demographic variables</u>		
Gender (1=Male)	-.73 (.37)*	-.85 (.37)*
Marital status (1=Married)	.67 (.53)	.88 (.54)
Living with others	-.10 (.55)	-.15 (.56)
Education (high school diploma)		
Less than high school ^a	-.74 (.53)	-.78 (.54)
Post high school ^a	-.36 (.37)	-.40 (.37)
<u>Psychological well-being in 1995</u>		
Happiness in 1995	-.04 (.06)	-.03 (.06)
Depressive symptomatology in 1995	.06 (.04)	.06 (.04)
Anxiety in 1995	.39 (.04)****	.40 (.04)****
<u>Stress factors</u>		
Perceived health	.51 (.19)**	-49.12 (34.87)
Physician use	.13 (.35)	-71.97 (63.38)
Functional limitations	.14 (.10)	34.19 (17.49)
Financial difficulties	.51 (.21)*	32.74 (39.97)
Stressful life events	.30 (.16)	-29.31 (27.70)
<u>Coping resources</u>		
Health insurance (1=Yes)	.32 (.87)	183.75 (183.71)
Personal income	-.16 (.16)	-30.18 (28.99)
Sense of control		
External locus of control	-.39 (.11)***	8.13 (19.10)
Internal locus of control	-.38 (.22)	.59 (39.76)
Social support		
Perceived social support	-.72 (.26)**	86.08 (41.73)*
Social contact	.19 (.43)	3.03 (76.44)
Social participation (1=Yes)	-.04 (.34)	13.88 (62.54)
Voluntary activity (1=Yes)	-.10 (.34)	6.19 (61.31)
<u>Age</u> (year born)	.02 (.02)	.20 (.13)

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

^a Reference groups: high school diploma, the soon-to-be-old.

**Appendix C. Factors Associated with Psychological Well-being (Anxiety) among the Soon-to-be-old, the Young-old, and the Old-old
(Additive and Interactive Models Examining the Age Effect Using a Variable of Year Born)
(Continued)**

Independent variables	Additive model <i>b</i> (SE)	Interactive model <i>b</i> (SE)
<u>Interaction terms</u>		
Perceived health*Age		.03 (.02)
Physician use*Age		.04 (.03)
Functional limitations*Age		-.02 (.01)
Financial difficulties*Age		-.02 (.02)
Stressful life events*Age		.02 (.01)
Health insurance (1=Yes)*Age		-.09 (.09)
Personal income*Age		-.02 (.02)
Sense of control		
External locus of control*Age		-.004 (.01)
Internal locus of control*Age		-.001 (.02)
Social support		
Perceived social support*Age		-.04 (.02)*
Social contact*Age		-.002 (.04)
Social participation (1=Yes)*Age		-.007 (.03)
Voluntary activity (1=Yes)*Age		-.003 (.03)
Intercept	-39.89 (34.44)	-386.18 (247.52)
<i>R</i> ² total	.386****	.400****

Note. * $p < .05$, **** $p < .0001$.

b is the unstandardized regression coefficient. Standard error is given in a parenthesis.

Appendix D. Psychological Well-being among the Soon-to-be-old, the Young-old, and the Old-old in 2001 and 1995 (N = 746)

	Age groups in 2001		
	Soon-to-be-old n=219	Young-old n=271	Old-old n=256
	Mean (Standard deviation)^a		
<u>Psychological well-being in 2001</u>			
Happiness ¹	12.05 (3.38) ^a	12.37 (3.02) ^a	12.05 (3.26) ^a
Depressive symptomology ²	3.35 (5.86) ^a	3.94 (6.45) ^a	4.42 (6.41) ^a
Anxiety ³	4.94 (5.48) ^a	4.18 (5.21) ^{a, b}	3.72 (5.01) ^b
<u>Psychological well-being in 1995</u>			
Happiness ¹	12.22 (3.11) ^a	12.47 (3.18) ^a	12.77 (2.84) ^a
Depressive symptomology ²	3.36 (5.91) ^a	3.11 (5.78) ^a	2.57 (5.17) ^a
Anxiety ³	5.70 (6.12) ^a	4.67 (5.60) ^b	3.19 (4.55) ^c

Note. One-way ANOVA statistics were used to test differences among means. Means with different letters are significantly different at less than the 0.05 level in the same variable.

¹ Composite score ranging from 0 to 14.

² Composite score ranging from 0 to 35.

³ Composite score ranging from 0 to 21.

Appendix E. Differences in Psychological Well-being among the Soon-to-be-old, the Young-old, and the Old-old in 2001 and 1995 by Gender (N=746)

Psychological well-being	Soon-to-be-old n=219 in 2001		Young-old n=271 in 2001		Old-old n =255 in 2001	
	Male n=93	Female n=126	Male n=106	Female n=165	Male n=88	Female n=167
Mean (Standard deviation)						
<u>Psychological well-being in 2001</u>						
Happiness ¹	12.20 (3.30)	11.94 (3.45)	12.49 (2.92)	12.29 (3.09)	12.08 (3.47)	12.02 (3.17)
Depressive symptomology ²	2.88 (5.68)	3.69 (5.98)	2.13 (3.84) ***	5.10 (7.46) ***	3.28 (4.82)*	4.99 (7.05)*
Anxiety ³	4.78 (5.70)	5.06 (5.34)	2.42 (3.34)*****	5.31 (5.85) *****	3.27 (4.41)	3.98 (5.30)
<u>Psychological well-being in 1995</u>						
Happiness ¹	12.54 (2.82)	11.99 (3.30)	12.57 (3.17)	12.41 (3.20)	12.76 (2.81)	12.77 (2.88)
Depressive symptomology ²	2.38 (4.22)*	4.09 (6.83)*	1.82 (3.92)**	3.94 (6.60)**	1.94 (4.22)	2.92 (5.60)
Anxiety ³	5.60 (6.38)	5.78 (5.94)	3.04 (4.55)*****	5.72 (5.97)*****	2.90 (4.39)	3.37 (4.65)

Note. T-test statistics were used to test differences between the means of each gender within each age group.

¹ Composite score ranging from 0 to 14.

² Composite score ranging from 0 to 35.

³ Composite score ranging from 0 to 21.

Appendix F. Difference in Psychological Well-being among the Soon-to-be-old, the Young-old, and the Old-old in 2001 and 1995 by Marital Status (N=746)

Psychological well-being	Soon-to-be-old n=219 in 2001		Young-old n=271 in 2001		Old-old n =255 in 2001	
	Married n=158	Not-married n=61	Married n=167	Not-married n=104	Married n=99	Not-married n=156
Mean (Standard deviation)						
<u>Psychological well-being in 2001</u>						
Happiness ¹	12.41 (3.01)*	11.13 (4.08)*	12.71 (2.67)*	11.82 (3.45)*	12.36 (2.87)	11.85 (3.49)
Depressive symptomology ²	2.32 (3.66)****	6.02 (8.93)****	2.74 (4.88) ****	5.86 (8.05) ****	2.85 (4.37)**	5.41 (7.27)**
Anxiety ³	4.80 (5.11)	5.30 (6.38)	3.98 (4.86)	4.50 (5.74)	3.64 (5.01)	3.75 (5.04)
<u>Psychological well-being in 1995</u>						
Happiness ¹	12.18 (3.24)	12.34 (2.77)	13.01 (2.37)***	11.60 (4.04)***	13.08 (2.40)	12.62 (3.05)
Depressive symptomology ²	2.87 (5.37)*	4.62 (7.03)*	2.41 (5.46)*	4.23 (6.13)*	1.90 (4.55)	2.95 (5.49)
Anxiety ³	5.56 (5.76)	6.08 (7.01)	4.10 (5.22)*	5.60 (6.08)*	2.85 (4.11)	3.37 (4.80)

Note. T-test statistics were used to test differences between the means of each gender of each age group.

¹ Composite score ranging from 0 to 14.

² Composite score ranging from 0 to 35.

³ Composite score ranging from 0 to 21.