RESOURCE AND STRATEGIC MOBILIZATION (RSM) MODEL OF PRODUCTIVE AGING: EXAMINING OLDER AMERICANS' PARTICIPATION IN VARIOUS PRODUCTIVE ACTIVITIES

by

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To Mom, Dad and Brother

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RESOURCE AND STRATEGIC MOBILIZATION (RSM) MODEL OF PRODUCTIVE AGING: EXAMINING OLDER AMERICANS' PARTICIPATION IN VARIOUS PRODUCTIVE ACTIVITIES

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Older people involve themselves in productive activities for different reasons, but the theoretical frameworks examining their engagement in productive activities are limited. This study introduces and tests a theoretical model, the Resource and Strategic Mobilization model (RSM) to systematically examine how personal resources and social networks influence older persons' participation in three major productive activities: employment, volunteering, and family caregiving. Using nationally representative data from the 2004 Health and Retirement Study, this study included 15,312 community-dwelling older adults aged 55 and above. Predictor variables included personal resources (financial resources and physical resources), and personal networks (family demands and

social events). Sociodemographic characteristics were controlled to obtain accurate impacts from the above three sets of predictor variables. Two age cohorts (the younger cohort, 55-64 vs. the older cohort, 65+) were examined separately, and for each age cohort, three logistic regression models were applied to assess whether older persons' personal resources and social networks influenced their engagement in employment, volunteering and caregiving. In addition, to better capture the diversity among older people, different gender groups and racial groups (Whites, Blacks and Hispanics) were also considered separately for each age cohort. Findings showed that greater financial resources influenced an older person's odds of being employed, and volunteering. In general, better health (more physical resources) increased the odds of working and of volunteering, but had a less pronounced effect on family caregiving. The greater family demands an older person had, the more likely he/she provided care to other family members. Engaging in social events influenced involvement in all three productive activities, especially volunteering. When age, gender and race were taken into consideration, the RSM model provided better prediction for those in the older cohort, and for Whites. As the RSM predicts, the diverse contexts of older persons, as indicated by personal resources and social networks, matter for what elders choose to engage in. Implications of using the RSM model to understand productive activities in which older people engage are discussed, and a new conceptual framework for productive aging based on the RSM model are presented.

CHAPTER 1

Introduction

The growing aging population has become a worldwide trend, particularly in developed countries. With its declining fertility and mortality rates, the United States is also experiencing a sharp demographic transition (Grigsby, 1991). While only 3.1 million people or 4.1% of the total population were 65 years old and older in 1900, 35.9 million people (or 12 % of the total population) were aged 65 and older in the US in 2003 (He, Sengupta, Velkoff, & DeBarros, 2005). Does the US society benefit more or lose more from this graying trend? Different scholars have different answers to this question.

For a long time in American history, many people have expressed concern about the costs and dependency of the elderly (e.g. Wise, 2005; French, 2005). However, as the lack of productivity among the older people was largely unfounded (Butler, 1975), more and more focus has been placed on the capabilities and potential of the elderly. The term "productive aging" was first introduced by Robert Butler at the 1983 Salzburg Seminar in Austria, which focused on identifying ways in which older people can contribute to the society. Since then, advocates of productive aging have consistently challenged the perception that most older Americans do not remain active. For example, one recent study shows that almost 80% of Americans aged 55 and older are involved in productive activities (Zedlewski & Schaner, 2005). However, criticism on the concept of productive aging also follows.

Harry Moody's critiques focuses on the breadth of such a concept, and he argues productive aging should be viewed both externally (e.g. paid employment) and internally (e.g. reducing dependency on others) (Moody, 2001). The "external" perspective focuses on the concrete societal contributions made by older people; the "internal" perspective asserts that when older people remain healthy, their dysfunction or dependency will be postponed. Healthy elderly are in turn indirectly "productive" by reducing their needs for assistance (Kaye, Butler, & Webster, 2003; Butler & Gleason, 1985). Scholars in critical aging raise their concerns over the meaning of the term "productive aging", which puts much weight on "productivity" of the elderly. Estes and Mahakian (2001) challenge the concept of productive aging more fundamentally. They argue for viewing aging under broad structural terms to consider how political and economic contexts as well as factors like race, class, and gender interact to help construct the concept and experience of aging (Estes, 2001). They fear the emphasis on the "productivity" could put those who are not contributing in an economically measurable manner as "unproductive" (Estes & Mahakian, 2001). Such emphasis would especially marginalize those who are in disadvantaged groups, such as older women and older racial minorities (Holstein, 1992).

Critical gerontologists assert that "the use of the concept obfuscates what is a macro problem – a society that stigmatizes and 'throws away' a particular age segment (and more) of its people – and redefines it as a micro problem of individuals who are aging" (Estes & Mahakian, 2001, p. 205). The biggest worries of these scholars are the loss of freedom for older adults to choose whether and how they will be productive. However, the concept of productive aging is not meant to and should not be used to mandate people's later life. Rather, it is intended to expand current opportunities for older

people (Caro, Bass, & Chen, 1993). Moody (1993) emphasizes, "[p]roductive aging, even if an ideal, should remain only an option, a matter of opportunity, but not something we force on people" (p.28).

Agreeing that productive aging is a choice for older people, the present study focuses on exploring factors that influence older people's involvement in different productive activities. Using the definition from Bass and Caro (2001), productive aging refers to any activity by an older individual that produces socially valued goods or services, whether paid for or not, or that develops the capacity to produce these goods or services. Three major forms of productive activities are *employment, volunteering,* and *assistance within families.* Current empirical studies have documented the reasons the elderly engage in one or another form of productive activity. Most of them, however, do not provide theoretical bases for their arguments. To help understand what factors influence older people's involvement in different productive activities, I will introduce two theoretical models from political participation: *the resource model* and *the strategic mobilization model*.

The resource model and strategic mobilization model were developed by political scientists to understand why people participate in different forms of political activities. The resource model predicts that the resources, such as time, money, and civic skills, explain which political activities are chosen for involvement. Arguing that the resource model explains only half of the political participation story, the strategic mobilization model completes the story by showing the importance of the individual's social networks. The combination of the *resource and strategic mobilization models* (RSM) explains human behavior in political participation, and may be helpful in predicting older people's

decision-making in participating in different productive activities. For example, when we apply RSM to productive aging, we predict that older people might be more likely to stay in the labor force if they have less financial resources; in addition an elderly person is predicted to be more likely to volunteer if he or she is asked to do so through his/her social networks.

Following this introduction, I review existing literature which documents older people's participation in three productive activities, and provide a critique of this literature. In the same chapter (Chapter 2), I introduce two political participation models, the Resource Model and the Strategic Mobilization Model, and use a combined and modified model, *resource and strategic mobilization model* (RSM) to help understand the key research question: what factors influence older Americans' participation in different productive activities? Eleven hypotheses are proposed for further testing. In Chapter 3, I explain the data source, sample, detailed measurement of the variables, and the analytical strategies used to test hypotheses. Results are presented in both Chapter 4 and Chapter 5. Chapter 4 shows descriptive results (both uni-variate and bi-variate analysis) to understand who are involved in productive activities, and in Chapter 5, regression results are presented to show what factors influence older people's involvement in productive activities and whether the RSM model are supported. Chapter 6 discusses the interesting findings from the previous two chapters and the contributions the RSM model brings. I conclude my dissertation by discussing the limitations of the RSM model as well as its implications to social work practitioners, policymakers, and particularly gerontological researchers in social work. A conceptual framework, based on the RSM model, is proposed for future research on productive aging.

CHAPTER 2

Literature Review

For a long time, older people have been labeled with negative stereotypes about their poor health and high demands of assistance. Rowe and Kahn disagree with the idea that the elderly are not productive by providing three general facts: (1) most older people do some productive work; (2) all in all, the amount of such work is substantial; and (3) much of it continues throughout life (Rowe & Kahn, 1998, p.170). Many other researchers also present empirical evidence that the elderly are actually productive and are actively involved in different productive activities. These empirical studies document the productivity of the elderly and identify factors that are associated with the productive activities. However, very few of these studies are developed with a guiding theoretical framework, and the lack of theoretical guidance limits our understanding of the processes and outcomes of productive involvement. In addition, while the current empirical studies examine elderly people's participation in one productive activity at a time, they fail to consider a more comprehensive picture including factors that influence in which productive activity an older person may choose to participate. There are three major types of productive activities in which an elderly person can participate: *employment, volunteering,* and *assistance within families* (Morrow-Howell, 2001).

Employment

Although the labor force participation rates for people who were 65 years old and older decreased, from 26.7% in 1950 to 14.4% in 2004 (www.bls.gov, 2006), research consistently found that older workers were more stable, had higher motivation, and more job-related skills and business knowledge than their younger counterparts (AARP, 2005). It is observed that "older workers are competitive with their younger counterparts on most measures of cost-effectiveness and quality" (Barth, McNaught, & Rizzi, 1995, p.42). Findings from two case studies, *Days Inn of America* and *B&Q*, supported the view that the relationships between age and productivity were weak or close to none (McNaught & Barth, 1992; Hogarth & Barth, 1991).

Existing literature of labor market participation among the elderly usually focuses on how economic resources (e.g. income) influence the employment of older people. The labor supply model of microeconomic theory suggests that higher income is associated with a lower probability of older individuals remaining in the labor force, and several empirical studies confirmed this argument. They found that people with a higher base of wealth retire earlier, and those who need to earn more stay in the labor force longer (Caputo, 2006; Fields & Mitchell, 1984). The supply-side explanations of the retirement of the elderly point out that with the presumption that most people choose to work or retire voluntarily, old workers often respond to the cash incentives, such as Social Security and private pensions, by choosing to leave the labor force. Social Security is the pension given to the elderly from the public sector, while the private pensions are from the private sector, such as employers. Both Social Security and private pensions create disincentives for the elderly to stay in the labor force (Burkhauser & Quinn, 1990).

Current studies, however, show mixed results for the relationships between Social Security benefits and employment. As Social Security plays a key role in replacing earned income for elderly workers, when older people are eligible for Social Security retirement benefits, such incentive is expected to influence people's decision to retain employment and thus decreases the productivity of the older Americans. Evidence showed that Social Security provided disincentives for older people to remain in the labor force (Vanderhart, 2003; Blau, 1994; Hurd & Boskin, 1984). Vanderhart used the March Current Population Survey (CPS) to compare cross-sectional participation profiles for the 1968-70 period to those for the 1995-97 period. He found that a negative and significant relationship between the level of Social Security wealth and labor force participation rates existed, and the increases in Social Security explained most of the observed decline in labor force participation rates (Vanderhart, 2003). However, another study using nationally representative data, the Panel Study of Income Dynamics (PSID) showed different results. Economist Eric French from the Federal Reserve Bank of Chicago used the method of simulated moments (MSM) estimation strategy to estimate the effects of wealth and wages on labor supply and retirement behavior (French, 2005). He argued that it is the taxation and actuarial unfairness of pensions and Social Security that explained the sharp decline in labor supply at ages 62 or 65 when high job exit rates took place.

Similar to the effects from Social Security, private pensions (e.g. employer pensions) create incentives or disincentives for elderly workers to stay in the labor force (Samwick, 1998; Turner, & Doescher, 1996; Fields & Mitchell, 1984). Using the Longitudinal Retirement History Survey in 1978, Fields and Mitchell examined how the structures of earnings, Social Security, and private pension benefits affected retirement

behavior. Consistent with microeconomic theory predictions, they found that the more generous the private pension level or stream was, the earlier an elderly worker chose to retire (Fields & Mitchell, 1984).

While current Social Security and private pensions provided incentives for elderly workers to leave their full-time careers, these benefits do not necessarily push workers to retire entirely. Studies indicated that elderly workers did not always immediately transit themselves from full-time employment to full-time retirement (Gustman & Steinmeier, 1984; Honig & Hanoch, 1985). Many elderly workers choose to remain in the labor force part-time, whether with the same job or not, for non-financial reasons. One survey sponsored by the Commonwealth Fund revealed the plans and preferences of labor force participation among older Americans. Using a nationally representative sample, this survey interviewed more than 3,500 men (aged fifty-five to sixty-four) and women (aged fifty to fifty-nine) in 1989 and asked detailed questions about their work status and history, plans and expectations, qualifications and skills, health, finances, and attitudes toward work and leisure. The survey showed that roughly 60 percent of the workers needed their jobs for financial reasons, while the remainder wanted their jobs for varying reasons, such as the enjoyment of their work, and retaining feelings of usefulness. However, among those who wanted to keep working longer than they expected they would, evidence suggested that old-age workers continued their employment not merely because of financial insecurity, but because they wanted to do so. This survey provided strong evidence suggesting that many older Americans prefer and are able to work longer than they currently do (McNaught, Barth, Henderson, 1991; Quinn & Burkhauser, 1990).

Besides the impact on labor force participation from economic resources, other factors might be associated with older people's employment status. The first, and one of the most commonly examined, is the health of older people. When holding three groups of the most important variables constant (personal and financial characteristics, local labor market conditions, and job characteristics), Quinn found in his early study that "individuals with a health limitation have a participation probability over 20 percentage points lower than those without (Quinn, 1977, p.337)", using Retirement History Survey from the Social Security Administration. Two more recent studies, both using data from Health and Retirement Survey (HRS), also showed similar results that workers are likely to retire early when they have chronic illness (Miah & WilCox-Gök, 2007), or have both acute and chronic illness (McGarry, 2002).

Psychological factors might contribute to why older people work as well, although direct evidence is scarce. Crown (1996) states that "although we know a great deal about the determinants of retirement, we know remarkably little about older workers and what motivates them to remain in the labor force" (p.2). A study by Haider and Loughran (2001) concludes that it is non-pecuniary concerns that dominate older people's decision to stay in the labor force. Their conclusion is based on three major findings: (1) the most educated, wealthiest and healthiest elderly are most likely to be working, (2) the elderly who choose to work do so for relatively low wages, and (3) health is the single most important predictor of whether an older person remains working, while wages, wealth and other personal and job characteristics have little or no effect on the decision to continue working.

Turning to the relationship between race and labor force participation, scholars interested in Social Security benefits for older workers in racial minority groups usually targeted the racial disparity of Social Security benefits (e.g. Nwafor, 2005; Gregoire, Kilty, & Richardson, 2002) and the impact of their health status (e.g. Bound, Schoenbaum, & Waidmann, 1996) or of the lifetime factors, such as lifetime earnings, asset income or educational levels (e.g. Butrica, & Iams, 2003; Ozawa, & Kim, 2001; Hogan, & Perrucci, 1998). For example, it is well documented that African American workers had less income (both earned and asset income), lower Social Security benefits (Smith, 1995; Hogan, & Perrucci, 1998), and were less likely to be covered by private pensions (Hersch, & White-Means, 1993) than their white counterparts. Studies examining the impact of wealth on labor force participation among racial minority groups, however, have not drawn enough attention.

Most studies that have examined the older workers' behaviors in labor force participation focused on male workers with reasons like data availability, or the minimization of gender differences. It has been found consistently that older women are less likely to work than men (e.g. Purcell, 2009), but studies specifically analyzing the relationship of wealth and employment among elderly women are relatively limited. Examining how wealth influences retirement for female workers, research showed that many female workers were constrained by money and needed to keep working (Onyx & Benton, 1996; Barth, et al., 1995). However, as the microeconomic theories predict, some studies argued that older women chose to leave the labor force when their earned income was replaced by a private pension (Coile, 2004; Price, 2002; Samwick, 1998) and/or Social Security (Coile, 2004; Samwick, 1998). Decisions on retirement were different for

female workers than they were for male workers (e.g. Onyx, & Benton, 1996; Quick, & Moen, 1998). Compared to their male counterparts, studies examining reasons that influence female workers' retirement decisions usually focused more on their family responsibilities (e.g. Richardson, 1999; Zimmerman, Mitchell, Wister, & Gutman, 2000; Orel, Ford, & Brock, 2004) than on wealth (see Weaver, 1994).

Volunteering

Volunteering is a widespread and highly encouraged concept and activity in America. Volunteer work can take place in both formal organizations and private environments. It usually refers to work without pay in a formal organization such as a church, hospital, or school, and further includes informal help to friends, neighbors, and relatives (Herzog & Morgan, 1993). Using definitions that include both formal and informal volunteer work, it was found that 45% of people aged 65 and over volunteered in 1998 (Independent Sector, 1999). It is estimated that older volunteers (55 and over) contributed services worth over $71 billion dollars in 1998 (Independent Sector, 2000). The Bureau of Labor, however, defined volunteer work more restrictedly as only those who volunteered through or for an organization were counted as volunteers. According to the Bureau of Labor Statistics, although the volunteer rates were lowest among persons aged 55 years and over (27.5%), compared to about 33% for those between 35 and 54 years old, volunteers age 55 and over donated the most time – a median of 77 annual hours[1] – to volunteer activities, compared to about 49 hours for those between 35 and 54 years old (Volunteering in the United States, 2005).

[1] According to the Bureau of Labor Statistics, 30.2 % of older people who were 55 to 64 volunteered in 2005, comparing to 24.8% of older adults who were 65 and older did. The median annual volunteering hours for these two age groups were 58 hours and 96 hours respectively.

Does a relationship exist between age and volunteering? Findings showed mixed results: while some scholars found negative or no relationship, others presented curvilinear or positive relationships. While some studies found that people's involvement in volunteering continued to decline as they age (Monk, 1995; Chambre, 1993; Chambre, 1987), one asserted that the rate of voluntary membership has been relatively flat since 1960 when social engagement and no relationship was found between age and volunteering (Cnaan &Cwikel, 1992). Other research described the relationship between age and volunteering as curvilinear (Hendricks & Cutler, 2004; Herzog & Morgan, 1993). Hendricks and Cutler used the 2002 Current Population Survey (CPS) and its associated supplement on volunteer activities to assess the applicability of Socioemotional Selectivity theory to the realm of volunteerism. They found that beginning at ages 20-24, the proportion of persons volunteering increased steadily through ages 40-44 and then declined through ages 80 or older (Hendricks, & Cutler, 2004). However, when using another nationally representative dataset, General Social Surveys to determine the relationship between age and volunteering, Cutler and Hendricks concluded that "older persons are not less likely to be members of voluntary associations than other age categories but may actually be more involved" (Cutler & Hendricks, 2000, p. S105).

Older people who had greater financial resources are more likely to volunteer (Choi, 2003; Carr, 2009; Morrow-Howell, 2010). Household income for older people who are 70 years and older increased their involvement in volunteering using nationally representative data from 1993 Asset and Health Dynamics Among the Oldest Old (AHEAD) dataset (Choi, 2003). Another study using a dataset from 2007 Current

Population Survey also confirms the same influence from income on volunteering, although this study included people from 50 years old and above, and did not control for their health (Carr, 2009).

The social network a person has is another factor associated with involvement in voluntary work. In his classic work, *Bowling alone: The collapse and revival of American community*, Putnam argues that "social networks provide the channels through which we recruit one another for good deeds, and social networks foster norms of reciprocity that encourage attention to others' welfare" (Putnam, 2000, p. 117). Social networks, such as size, increases older people's volunteering (Burr, et al., 2005), and being asked by someone in older people's social networks is found to be an important reason to volunteer (Independent Sector, 2000). Religious institutions, such as church, are common and key parts of the social networks. Scholars consistently document that older people who have specific religious affiliations (Fischer & Schaffer, 1993; Herzog & Morgan, 1993), are active in religious activities (Caro & Bass, 1997), or attend church frequently (Tang, 2006; Wymer, 1999) are more likely to volunteer.

Besides the impact of age and social networks on volunteering, scholars show other factors that are related to older people's participation in volunteer work. The first factor is the health status for older people. Compared to their non-volunteer counterparts, older volunteers are healthier (Jirovec, 2005). Many scholars confirm that the health status of an older adult is a precondition to volunteer (Caro & Bass, 1997; Fischer & Schaffer, 1993; Herzog & Morgan, 1993). When older people have better self-rated health status (e.g. Choi, 2003; Caro & Bass, 1997) and/or fewer functional impairments (e.g. Herzog & Morgan, 1993), they are more likely to participate in voluntary work.

Psychological factors, such as altruism or egoism, are often found to be related to voluntary activities. Many older volunteers expressed their desire to help others (Okun, 1994), and many of them also act on egoistic motives in order to cope with inner conflicts or to gain approval (Cnaan, & Goldberg-Glen, 1991). Some scholars, however, question respondents' stated reasons for volunteering (e.g. Warburton, & Terry, 2000; Clary & Snyder, 1991); they argue that there is no clear cut separation between altruistic and egoistic motives, and "even when people say they want to help others, their real motivations are much more complex" (Fischer & Schaffer, 1993, p.43).

The relationship between a person's educational level and volunteering has also been universally and positively asserted (Choi, 2003; Rotolo & Wilson, 2004; Carr, 2009).Using data from the 1993 Asset and Health Dynamics Among the Oldest Old (AHEAD), Choi (2003) found that more years of education increased the likelihood for the elderly to volunteer and to volunteer more hours even after income is controlled. This relationship remained strong when health status is not taken into consideration in another study including older people with younger age in 2007 (Carr, 2009).

As for the relationships between volunteering and the other two factors, marital status and gender, mixed results were found. While some studies find that married people volunteer more than their unmarried counterparts (Chambre, 1984; Fischer & Schaffer, 1993; Rotolo & Wilson, 2004), others did not find that marital status influenced volunteering (Warburton, Le Brocque, & Rosenman, 1998; Herzog & Morgan, 1993). When gender was considered, several scholars documented that females were more likely than males to do voluntary work (Tang, 2006; Lum & Lightfoot, 2005; Manning, 2010; Oman, et al., 1999), whether or not their marital status and health status were controlled.

Other researchers found that men actually volunteered more than women (Musick, Herzog & House, 1999; Wymer, 1999; Caro & Bass, 1997). Further, some literature did not find that men and women behave differently with respect to volunteering (Li & Ferraro, 2006; Morrow-Howell, Hinterlong, Rozario, & Tang, 2003; Choi, 2003; Herzog & Morgan, 1993).

When race is taken into consideration, the relationship between race and volunteering was non-existent (e.g. Choi, 2003). Other studies, however, constantly document that Whites elders have higher rates of volunteering than older people in the other racial groups (Carr, 2009; Cutler and Hendricks, 2000). Findings from the 2007 Current Population Survey indicated that older people in the racial minority groups (Blacks, Hispanics, and others) are less likely to volunteer than their White counterparts even after controlling for their gender, education, income, health, and employment (Carr, 2009). Cutler and Hendricks (2000) found that whites continued to be more active in voluntary work than their non-white counterparts. These two studies, however, did not discuss further why race is associated with volunteering, when other variables were held constant.

Assistance within families

Needing care has been a topic frequently examined among the elderly, but caregiving provided by the elderly has been a topic only recently examined. With trends in aging, scholars typically emphasized the heavy care needs among the aging population. For example, studies found that about 13 percent of the American elderly needed assistance with basic activities of daily living (ADLs) and instrumental activities of daily living (IADLs) (Komisar, Lambrew, & Feder, 1996). Current scholars continue to create

images of elderly dependency without contemplating the care the older Americans provide within families. These images, however, are misleading. In 1991 the Commonwealth Fund survey reported that about 26% of Americans who were 65 years old and older provided informal assistance to a sick or disabled relative, friend, or neighbor (Doty, 1995). These statistics showed that there were more older Americans who provided informal help to others than those who needed assistance, and most importantly, there were twice as many older caregivers as older care recipients.

Studies of older caregivers focused on two aspects: the long-term care that they provided for their frail parents or spouses and the assistance they made available to their grandchildren. Bass and Caro (1996) illustrate that the idea of productive aging can be measured in the family, a key form of social networks (Putnam, 2000). This is seen in the current trend of grandparents caring for their grandchildren (U.S. Bureau of the Census, 1999), although only a small amount of their time was spent providing childcare. For most older people, the bulk of family responsibilities are related to long-term care provision, especially for spousal caregiving (e.g. Feld, Dunkle, Schroepfer, & Shen, 2006; Bass, & Caro, 1996; Allen, Goldscheider, & Ciambrone, 1999; Midlarsky, & Kahana, 1994).

During the last two decades, researchers consistently documented that spouses were one vital source of informal assistance to married elders who had health problems. Considering the composition of the informal caregiving network, time availability, and the commitment of the relationship when a spouse was present, extensive evidence showed that elders who needed ADL and IADL help relied most on the spouse (Morris, Sherwood, & Morris, 1996; Stone, et al., 1987; Miller & McFall, 1991; Stoller &

Pugliesi, 1991). For example, among family members, such as children and other relatives, the spouse constituted the majority of sole caregivers, with 60% of wives as caregivers to their husbands and 55% of husbands as caregivers to their wives (Stone, et al., 1987).

While the elderly have been recognized as major long-term care providers in the US family, a rapid increase in grandparents taking primary responsibility in raising grandchildren has also been scrutinized lately (AARP, 2003; Robertson, 1995). In 2000, there were about 4.4 million children, 6.3% of all children in the U.S., living in grandparent-headed households (Fuller-Thomson & Minkler, 2001), which was a 15% increase between 1997 to 2000 alone (Lugaila & Overturf, 2004). Census 2000 data indicated that 4.2% of all Caucasian children, 13.2% of all African American children and 7.8% of all Hispanic children were living in grandparent-headed homes (Lugaila & Overturf, 2004). Although grandparenthood was highly associated with a person's age as expected, it was found that half of grandparents in the US were less than 60 years (Schwartz & Waldrop, 1992; Lugaila & Overturf, 2004). The increase of intergenerational support, such as grandparents rearing grandchildren, was argued to be a consequence of the change of family structures (Bengtson, Rosenthal, & Burton, 1990; Eggebeen & Wilhelm, 1995). The increase in the number of single-headed families had extended the involvement of grandparents to help complete the child care puzzle. Specific reasons for older Americans to parent grandchildren varied. Although some grandparents babysat simply because they wanted to be part of their grandchildren's lives or to do a favor for their adult children (AARP, n.d.), most literature documented negative reasons that the elderly parented grandchildren. Grandparents became caregivers

of their grandchildren as a consequence of their child's substance abuse (Sands, Goldberg-Glen, & Thornton, 2005), drug addiction (Burton, 1992; Minkler, Roe, & Price, 1992), or parental joblessness as well as teenage out-of-wedlock childbearing (Apfel & Seitz, 1991; Burton & Dilworth-Anderson, 1991).

Gender disparities in caregiving literature are often examined. For example, research has consistently documented that women are more likely than men to care for sick family members (Feld, et al., 2006; Katz, Kabeto, & Langa, 2000). The majority of the caregiving research focuses on women as they are unproportionately care providers (e.g. Jendrek, 1994; Baydar, & Brooks-Gunn, 1998; Sands, Goldberg-Glen, & Thornton, 2005). When both male and female elderly were included and when all other socio-demographic characteristics and health status were controlled, older women are more likely than their male counterparts to care for their spouse (Feld, et al., 2006; Wolff & Kasper, 2006; Stoller and Cutler, 1992), and grandchildren (Fuller-Thomson & Minkler, 2001).

Racial differences were also found in family caregiving that was provided by older adults. Literature consistently showed that older African Americans were more likely than their White counterparts to provide care to their spouses (Feld, Dunkle, & Schroepfer, 2004) and grandchildren (Pruchno, 1999). Arguing from the perspectives of cultural and historical norms, African Americans are more likely to care for family members at home and other family members are more likely to step in when care is needed (Dilworth-Anderson & Burton, 1999).

Besides literature describing to whom the elderly provide care and racial/gender differences between male and female older caregivers, literature documenting other

factors (e.g. social networks) associated with the elders care provision has drawn very little attention.

Studies exploring more than one productive activity

While most studies on productive aging focus on the influence from various factors on single productive activity (e.g. Caputo, 2006; Choi, 2003), some have explored the dynamic among two of the three productive activities (e.g. Scharlach, Gustavson, & Dal Santo, 2007).

Scharlach, Gustavson, & Dal Santo (2007) argued that working caregivers commonly face challenges between their jobs and family responsibilities, and adjustments usually need to be made when conflicts exist between these two roles. An individual's family responsibilities included the care provision to children, parents, as well as sick spouses. Empirical evidence consistently showed that caring for sick family members increases the likelihood of reduced or exit work (Covinsky, Eng, Lui, Sands, et al., 2001), and the impact was larger among older women than among older men (McLanahan & Monson, 1990; Stone, Cafferata, & Sangl, 1987), even when older people's health status and personal characteristics were controlled (Dentinger & Clarkberg, 2002)

Several researchers hypothesized that employment influences volunteering among older people, but existing literature shows opposite predictions of how employment affects volunteering. First, employment might decrease the chances for an older person to volunteer. Many people who do not participate in voluntary work express the lack of free time as one reason for not volunteering (Wymer, Riecken, & Yavas, 1996). Therefore, after older people stopped working, they were likely to have less time constraints from

employers and family duties, and were likely to volunteer. Newly-retired workers "should readily be able to reactivate the skills required to make productive contributions in formal organizational settings (Caro & Bass, 1997, p. 428)." Other research, however, found that employment might actually increase chances of older people's volunteering (e.g. Choi, 2003). When older people worked, especially part-time, these older workers were more likely to participate in volunteer work than older people who did not work (Choi, 2003; Herzog & Morgan, 1993). Researchers provided two different explanations for such findings. First, people simply did not like to work without payment. Therefore, some older people expressed that they had "paid their dues" to society when they were younger and did not want to contribute further once they completely left the labor force (Fitzgerald, 1986). Second, from the social networks viewpoint, younger people had more social networks, such as workplace or parents who were in contact with many community organizations with which older people no longer associated. This in turn led older people to have less access to involvement in volunteer work. The social network perspective argues that people would be more willing to participate in various activities when someone they know asks them to do so. This link is further corroborated by data from the Gallup Poll survey that suggested"… the reason that people cited most often for starting to do volunteer work was that they had been asked and been recruited through an organization to which they belonged" (Herzog & Morgan, 1993, p. 138). In addition, it has been found that four million active senior volunteers would volunteer additional hours if asked (Cnaan & Cwikel, 1992).

Few studies directly examined the relationship between caregiving and volunteering. Using data from the Health and Retirement Study in 1998 and 2000, Choi

et al. found that spousal caregiving was not significantly associated with men's volunteering; however, wives who provided spousal care were less likely than non-caregivers to volunteer (Choi, Burr, Mutchler, & Caro, 2007). Although people who have caregiving responsibility are assumed to have less time or energy for volunteering, other research showed differences. Using another nationally representative dataset, Americans' Changing Lives survey (ACL) in 1986 and 1989, Burr and his colleagues found that older people aged 50 and older who spent more time providing care also volunteered more hours (Burr, Choi, Mutchler, & Caro, 2005). They argued that the positive relationship between caregiving and volunteering might be due to the expansion of the social networks: "caregivers would be exposed to more opportunities for caregiving than noncaregivers and that this exposure would also result in caregivers being more likely to be asked to volunteer" (Burr, et al., 2007, p.S254).

Existing literature illustrates that many older people contribute to the society by working, volunteering and providing care to other family members. These studies showed that older people's personal resources (financial resources and physical resources), personal networks (family networks and social networks) and socio-demographic characteristics influenced their involvement in productive activities. In addition, involvement in one productive activity may influence whether elders do another productive activity. Although this literature provides valuable information on factors that are associated with the involvement in productive activities, several limitation should be noted.

Critique of literature

According to Bengtson and Schaie's (1999) observation, the literature on productive aging strongly shows that this new area is data rich but theory poor. Existing empirical research limits our understanding of productive activities for the elderly in at least two aspects. First, most of the empirical studies fail to develop their research based on theories. Without the theoretical support, the explanatory power for the empirical findings is weakened.

Second, current literature shows that the two variables (personal resources and personal networks) may explain the elderly's participation in certain productive activities. Their influence on the engagement among the three different activities, however, has not been systematically examined. Understanding how resources and networks influence with the decision making for the elderly who participate in productive activities is important to better identify the elderly with the potential to be productive. While various life situations happen to each individual, the productive aging literature should address when productive activities may be associated with societal circumstances which may change at any time. Productive aging theories need to more closely examine the context and situation-based circumstances in which people age (Taylor & Bngston, 2001). To fill this gap, two political participation models are identified that are used to predict human behaviors in political participation and then are applied to understand activities engaged in by older persons, namely employment, volunteering and family caregiving.

Conceptual framework: Resource and strategic mobilization model

Theories are crucial to productive aging because they provide a coherent framework for making sense out of scientific observations that existing literature present. Without the theoretical framework of productive aging, gerontologists would be limited

to exploring productive activities that current elderly people are engaged in, and cannot further understand the reasons why older adults act in a certain way. Two political participation models that predict individuals' participation behaviors could expand our understanding of when older people choose to participate in a specific type of productive activity. In this section, I will first introduce the two theoretical models in political participation and their key arguments of why Americans are involved in politics. Then, I will explain why these two theoretical models are helpful to understand older people's participation in productive activities, and purpose several hypotheses for further testing.

Resources model

Individuals will be more likely to take part in politics if they have resources that make it possible to do so. The resources considered are money, time, and civic skills – communications and organizational capacities that are essential to political activity (Brady, Verba, & Schlozman, 1995). The resource model takes an approach that is closely related to the resource mobilization model in sociology. To predict individuals' behaviors in political participation, Brady and his colleagues focused their model on the resources that were available to individuals instead of those available to social movement organizations.

Literature that seeks to explain Americans' political participation behaviors focused on the impact from individuals' socioeconomic status (SES): education, income, and occupation (see Figure 2.1) (e.g. Verba, Schlozman, Brady, & Nie, 1993; Wolfinger, & Rosenstone, 1980). The resource model is unique in that it moves beyond the SES model and provides explanations of not only who is more active in political activities but also why certain groups of people are involved in particular kinds of activities. The three

resources of money, time, and civic skills vary in their association with a person's SES. Arguing that distribution of resources was associated with personal socioeconomic status, these scholars showed that resources could reflect personal SES and other individual characteristics, and could also be linked forward to political activities (see Figure 2.2) (Verba, Schlozman, & Brady, 1995).

Figure 2.1. Socioeconomic status (SES) and political participation

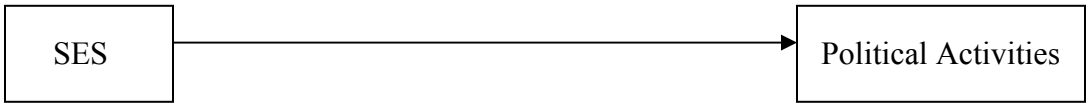
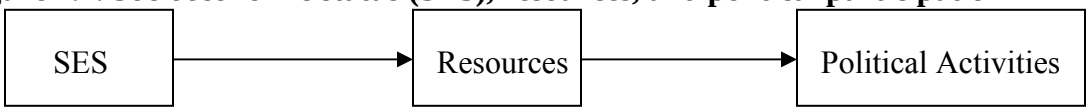


Figure 2.2. Socioeconomic status (SES), resources, and political participation



In the resource model, the lack of psychological engagement with politics, such as a lack of interest in politics and no consciousness of membership in a group with shared political interests, helps to further explain why some Americans do not participate in different types of political activities. Although the resource model shows that the political interest a person has more or less influences his or her political participatory acts, Brady and his colleagues (1995) caution accepting the findings on political interests from two aspects. First, Duncan (1984) alerts researchers that individuals' reports on attitudes are greatly diverse and unreliable. This ambiguity in turn makes it difficult to compare across respondents. Second, political interests and political activity are likely to be a cause and a consequence of each other, but when leaving it in the equation, political interests still remain a powerful predictor of political activity (Brady, Verba, & Schlozman, 1995).

Using a national, two-stage survey (The Citizen Participation Study), Brady and

his colleagues (1995) found that civic skills are especially important for acts requiring an investment of time, such as campaign work, and money is most vital for acts involving an investment of money, such as donations. For instance, when a person's income increases by $10,000, that person will increase his or her political donation from $66 to $101.

In two studies, the resources a person has further proved to be more powerful predictors of political participation than other personal characteristics. In the first study, which examined the relationship between race and political participation, resources referred to education, time, money, and command of the English language. Findings showed that resources were distributed very unevenly across the three racial groups among African-Americans, Latinos and Anglo-Whites. However, when personal resources were taken into account, no difference of political participation was found among these three racial groups (Verba, Schlozman, Brady, & Nie, 1995). The second study focused on the role resources played in exploring gender disparities in political participation (Schlozman, Burns, & Verba, 1994). Women have long been attached to family responsibilities more than men, resulting in less formal labor sector participation. Therefore, women are less able to generate resources that facilitate political activities. However, when the resource deficits of women were taken away, the overall levels of political activities would be closer to men. For example, men participated in 2.3 political acts compared to 2.0 for women. When resources were taken into consideration, women's participation increased .11, indicating that the gender gap of political participation narrowed by more than one-third.

Although personal resources were found to be very powerful predictors of people's participation behaviors, many people with available resources did not participate

in politics at all. To better understand factors that influence people's involvement in politics, Rosenstone and Hansen (1993) offered another explanation. They argue that many people do not participate in politics because these non-participants may not have been asked to do so.

Strategic mobilization model

The key argument of the strategic mobilization model is that "people participate in politics not so much because of who they are but because of the political choices and incentives they are offered" (Rosenstone & Hansen, 1993, p.5). In other words, according to this model, political activity is often triggered by a request – from a relative, a workmate, a fellow member of an organization or church member, or even a stranger who calls during dinner. Rosenstone & Hansen (1993) do not deny the important relationships between resources and individual decisions in political participation, but they view resources as half of the story of political participation in America. They argue that the strategic mobilization used by political leaders to mobilize ordinary citizens into American politics completes the story.

"*Mobilization* is the process by which candidates, parties, activists and groups induce other people to participate" (p.25). Rosenstone and Hansen distinguish two types of mobilization: direct mobilization and indirect mobilization. Political mobilization implies a two-stage process of how people are motivated to take action. The first stage (direct mobilization) starts with the political elites, such as presidential candidates, contacting people directly via telephone or door-to-door canvassing. The second stage (indirect mobilization) starts with those who have been contacted by political elites. These people then motivate other people in their social networks to participate in politics.

In other words, "[s]ocial networks…convert direct mobilization into indirect mobilization. Political leaders mobilize citizens for political action through social networks" (p.27).

The strategic mobilization model has been widely used to explain the diminution of political participation (Rosenstone, & Hansen, 1993; Abramson, & Claggett, 2001; McClurg, 2003, 2004), or more specifically, the decline of the voter turnout (Rosenstone, & Hansen, 1993; Holbrook, & McClurg, 2005; Gerber, & Green, 2000) during the last half century. Arguing that a decrease in political mobilization is the main explanation for the drop in turnout over time, Rosenstone and Hansen (1993) used the eighteen surveys from National Election Studies (NES) between 1952 and 1988 to test their argument. They found that if all other factors were held constant, voter participation would have fallen only 2.6 percent, rather than the 11.3 percent. Their findings were further confirmed by Kernell and Jacobson that "fewer people are voting in part because fewer people are being mobilized – that is, being asked to vote by neighborhood activists working for parties or candidates" (Kernell, & Jacobson, 2003, p.399).

Although the strategic mobilization model also received some challenges, which stated there was no evidence of a decline in mobilizing activity that influenced a decrease of political activities (Goldstein, & Ridout, 2002), the strategic mobilization model furthers our understanding of decreasing political participation in America. Strategic mobilization not only helps to solve the long-time puzzle of declining participation in American politics, but also suggests solutions for how political participation can be boosted. Social networks are the key. Social networks include families, friends, co-workers, and neighbors whom people interact with everyday. While social networks are vital sources from which people are mobilized to participate in

politics, the larger social networks a person has may in turn grant him or her greater access to involvement in political activities.

The Resource model and Strategic Mobilization model each explain half of the story of why Americans are involved in politics, combining these two models allows us for an inclusive understanding of people's behaviors in political participation on at least two levels. First, the amalgamation of these two models helps to explain who participates in politics and who does not. Second, these two models further elaborate why some people participate while some do not. In other words, putting together factors from these two political participation models provide comprehensive explanations of Americans' political participation, and a combined model may be applied to other research areas to further our understanding of people's participation behaviors, such as productive aging.

Resource and Strategic Mobilization Model (RSM) of productive aging

The idea of applying theoretical models in political participation to productive aging comes from a common ground that both political participation and productive aging share: civic engagement. The term, civic engagement, has been widely used and promoted, referring to "…activities of personal and public concern that are both individually life enriching and socially beneficial to the community. Late life civic engagement can take many forms, from individual volunteerism to paid part or full time work to organizational involvement to electoral participation. A community can be a neighborhood, city, county, nation or the world" (ASA Civic Engagement Program, n.d.). Because political participation and productive aging are both identified as civic

engagement, factors that explain why Americans participate in politics are helpful for us for making sense of why older people engage in productive activities.

Each of the two political participation models, the resource model and strategic mobilization model, provides vital but only partial explanation of why older Americans are involved in civic activities; thus, factors in both models are needed to understand a complete picture of older Americans' participation. For example, key factors considered in the resource model include personal resources (e.g. income), and existing literature has confirmed that older people with more personal resources, such as income and health are more likely to volunteer. However, there are many older people with great personal resources who do not volunteer. A model that only considers the personal resources might not be enough to explain why some people volunteer while some do not. One possibility that helps to further explain the variations of involving in volunteering may be the nature of social networks, the key fabric to mobilize civic engagement. Findings from a qualitative survey show that many older volunteers started to do so by being asked (Independent Sector, 2002), and they are willing to volunteer more if they are asked to do so (Cnaan & Cwikel, 1992). Combining the two political participation models to productive aging, I argue, that the *Resource and Strategic Mobilization* (RSM) model can better predict older people's participation in different productive activities.

As existing literature shows the importance of personal resources and personal networks on older people's employment, volunteering, and caregiving, this literature reveals that the logic behind an elder's involvement in productive activities may come from three aspects: (1) they have to (e.g. insufficient financial resources and obligations to fulfill family demands), (2) they are able to (e.g. good health), and (3) they are asked

to (e.g. mobilization from colleagues, friends, and/or family members). The RSM model integrates these three aspects and provides guidance to map out the importance of personal resources (including financial resources and physical resources) and personal networks (including family networks and social networks) in determining the productive activities in which older Americans choose to be involved. In addition, previous researchers point out possible relationships among employment, volunteering and caregiving. The RSM model also takes into consideration the influence of involving in the other two productive activities on engaging in each productive activity. Figure 2.3 illustrates the conceptual scheme developed to understand productive activities among older people using the RSM model. In total, eleven hypotheses are proposed for future testing:

Employment

- *Hypothesis I:* Older people who have more financial resources will be less likely to stay in the labor force.
- *Hypothesis II:* Older people who have more physical resources (better health) will be more likely to stay in the labor force.
- *Hypothesis III:* Older people who provide care to other family members will be less likely to stay in the labor force.

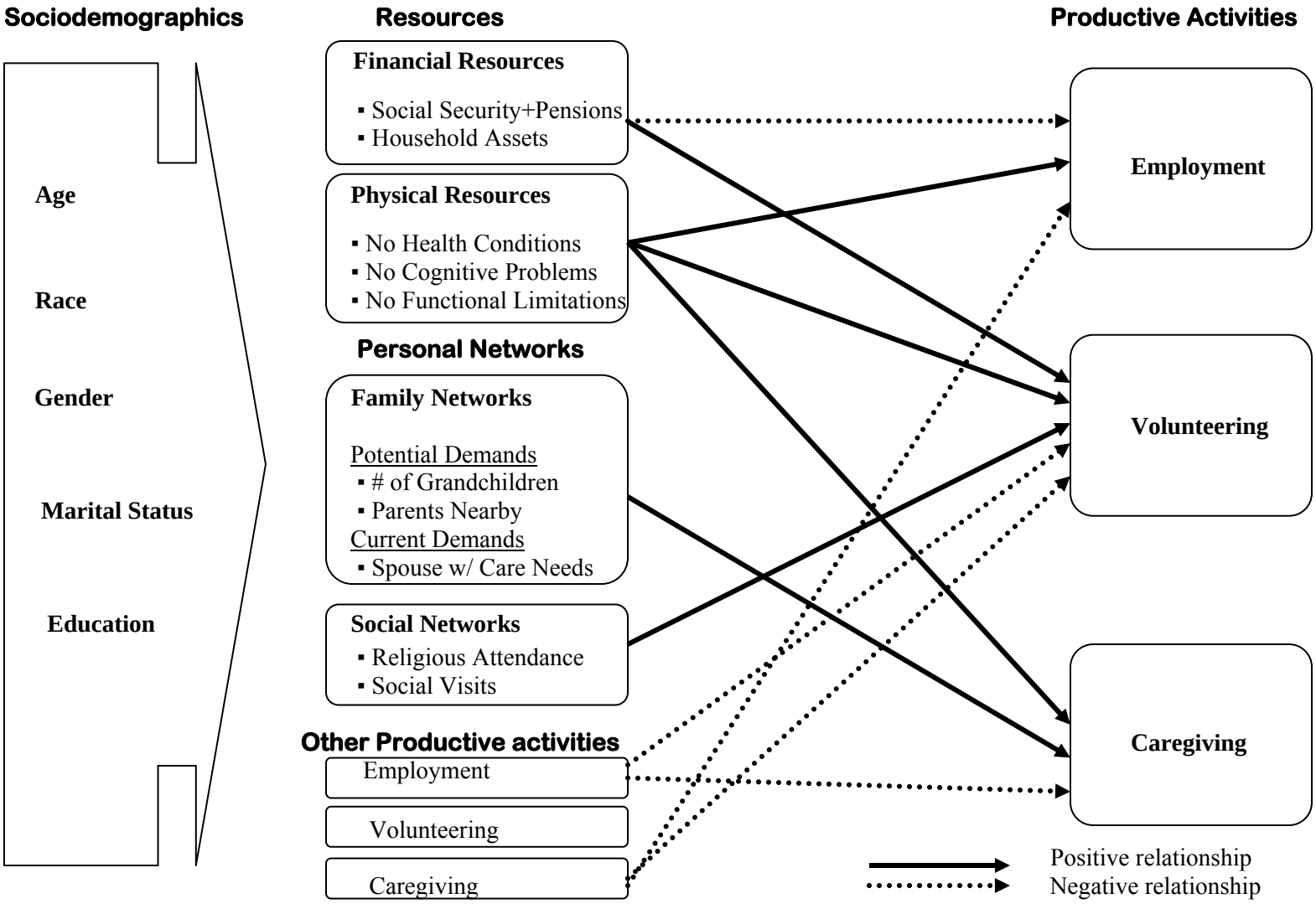
Volunteering

- *Hypothesis IV:* Older people who have more financial resources will be more likely to volunteer.
- *Hypothesis V:* Older people who have more physical resources (better health) will be more likely to volunteer.
- *Hypothesis VI:* Older people who have greater social networks will be more likely to volunteer.
- *Hypothesis VII*: Older people who are employed will be less likely to volunteer.
- *Hypothesis VIII*: Older people who provide care to other family members will be less likely to volunteer.

Family Caregiving

- *Hypothesis VIIII:* Older people who have more physical resources (better health) will be more likely to care for other family members.
- *Hypothesis X:* Older people who have more demands in family networks will be more likely to care for other family members.
- *Hypothesis XI:* Older people who are employed will be less likely to care for other family members.

Figure 2.3. Resource and Strategic Mobilization model (RSM) of productive aging



CHAPTER 3

Methods

A. Data and Sample

The data used in this study are from the 2004 Health and Retirement Study (HRS), a national longitudinal study which surveyed over 20,000 people every two years since it was first launched in 1992. HRS covers a broad range of topics regarding older Americans, including economic conditions, racial and ethnic backgrounds, health, marital histories and family composition, occupations and employment histories, living arrangements and other aspects of life (Karp, 2007). In the original design of the 2004 HRS, although most data are collected at the respondent level, data from the following 6 different levels are also included: household level, sibling level, household member and child level, helper level, transfer-to-child level, and transfer-from-child level. For each wave, RAND Corporation develops an Enhanced HRS Fat File which merges most of the raw variables at the six different levels to respondent level to create a cleaned and user-friendly HRS dataset. In the present study, 2004 RAND HRS Fat File is used as a base dataset. When needed variables are not available in the Fat File, these variables are imported from the original 2004 HRS data file.

The 2004 HRS interviewed adults who were age 51 and older, and the survey was conducted between March 2004 and February 2005. The 2004 HRS has a total sample of 20,129 community-dwelling elders (and their spouses or partners, regardless of age), and

is comprised of five sub-samples: (1) the first sub-sample, the HRS sub-sample, consists of people who were born 1931 through 1941 and were interviewed in 1992 and every two years thereafter; (2) the Asset and Health Dynamics Among the Oldest Old (AHEAD) sub-sample includes people who were born in 1923 or earlier and were interviewed in 1993-94, 1995-96, 1998 and every two years thereafter; (3) the War Baby (WB) sub-sample consists of people who were born in 1942 through 1947 and were interviewed in 1998 and every two years thereafter; (4) The Children of the Depression (CODA) sub-sample includes people who were born in 1924 through 1930 and were interviewed in 1998 and every two years thereafter; and (5) The Early Baby Boomer (EBB) sub-sample consists of people who were born in 1948 through 1953 and were interviewed in 2004 and every two years thereafter (see hrsonline.isr.umich.edu for details of the 2004 core HRS sample design and sampling methods).

The subsample used in this study included non-Hispanic Whites, Blacks, and Hispanic community-dwelling older adults who were 55 years and older in year 2004 with all measures available. In total, 15,312 older people met the stated selection criterion, and influential observations were not found after tests of regression diagnostic using SAS program.

B. Measures

Dependent variables

The dependent variables in the present study are *employment*, *volunteering*, and *family caregiving*. Each of these dependent variables is measured separately and tested independently. These variables were used separately because an appropriate model to handle an ideal dependent variable is difficult to obtain. The ideal dependent variable

would include all possible combination of the three productive activities in which older people could be involved. The 8 possible involvement outcomes would be: no involvement, employment only, volunteering only, caregiving only, employment and volunteering, employment and caregiving, volunteering and caregiving, and all three activities. An 8-level logistic regression, which would take the above 8 combinations into consideration, could be used to examine how personal resources, social networks, and socio-demographic characteristics determine the types and the numbers of productive activities in which older people participated. This 8-level logistic regression model is very difficult, if ever possible, to handle and interpret; due to this difficulty, the present study proceeds by considering older people's involvement in the three productive activities separately.

Employment is measured in two steps. First, employment status is coded as a dichotomous variable; those who are employed (coded 1) are compared to those who are not (coded 0). Second, for those who work, their working hours go from 1 hour to 168 hours per week. While 8% (n=1093) of older people in the sample work more than 41 hours per week, (including a substantial number of these people report working more than 70 hours per week), the amount of employment in the present study is measured by whether older people work part-time or full-time. Those who work 1 to 34 hours per week are coded working part-time, and those who work 35 hours or more are defined as working full-time.

Volunteering is measured in two steps. First, volunteering status is coded as a dummy variable, and those who volunteer (coded 1) are compared to those who do not volunteer (coded 0). Second, for those who volunteer, the amount of volunteering is

collected in the HRS as an ordinal variable, where an older person self-reports that he/she volunteers 1-50, 51-100, 101-200, or 201 and more hours in the past 12 months. Volunteer work refers to the unpaid work that elderly do for religious, educational, health-related or other charitable organizations.

The third dependent variable, *family caregiving*, is also measured in two steps. First, family caregiving status is treated as a dummy variable where those who care for family members (coded 1) are compared to those who do not (coded 0). Second, for the older people who provide care to other family members (spouse, grandchildren, and parents or in-laws who live within 10 miles), the hours of care they provide range from 1 to 168 hours per week, which includes substantial numbers of people who provided 168 weekly caregiving hours (n=94). To better capture the weekly hours of care that older adults provide, the amount of care is measured for two groups: older people who provide 1-20 weekly hours of care, and those who provide 21 or more weekly hours of care[2].

Predictor variables

Following the modified model of Resource and Strategic Mobilization model (RSM) described in Chapter 2, two major predictor variables are included, *personal resources* and *personal networks*.

Personal Resources

Two types of resources are considered: financial resources and physical resources. Two indicators are used to measure an older person's *financial resources*: household income from Social Security and pensions and household assets in the past 12 month. Household income is a sum of two types of income received by the respondent and

[2] 20 hours of care per week is used as a dividing point because it is the average number of hours family caregivers spend caring for their loved ones (AARP, 2004).

his/her spouse, if married. It includes Social Security benefits and pension benefits[3]. Earned income (earnings from self-employment, wages and salaries, professional practices and trades, tips and bonuses) is excluded from household income for the following reason. Individuals who work would have higher earned income. If earned income is included in the measurement of household income, using household income to predict older adults' employment, which is one of the major dependent variables in the present study, would be biased. In addition, welfare income (e.g. unemployment benefits, Supplemental Security Income, disability benefits… etc) is also excluded because the welfare income is mainly received by those who do not work, especially if they are too young to be eligible for Social Security. The Social Security and pension income ranges from $0 to $2,183,440. Log transformation is used in the analysis to achieve the normality of distribution of Social Security and pension income.

Household assets are the sum of all asset components minus all debt. Assets include net values of primary residence, real estate, vehicles, businesses, stocks, bonds, checking accounts, and certificates of deposit, Individual Retirement Account (IRA), and other assets. The debt is calculated as the sum of money owed on mortgage, equity loans, and all other debts. The range of the household assets is from $-1,999,200 to $77,200,000. Log transformation was conducted to account for the skewed distribution of this measurement. However, because the logarithm cannot take negative values, a number of 1999200 is added to all values before log transformation. In the following analysis, numbers with log transformation are applied.

[3] Pension income includes all retirement pensions for both respondents and spouses.

As a large amount of missing data exist in the original income and asset variables, I used imputed income and asset variables constructed by RAND HRS[4]. Based on the types of missing values, three separate imputations were conducted. The three progressive imputation steps were: "to impute an exact amount, given that a range is known; to impute a range, given that ownership or only incomplete range is known; and to impute ownership, in case nothing is known." (St. Clair, et al., 2008).

Three variables are used to measure an older person's health status, or what is called *physical resources* in the present study: no chronic health conditions, no cognitive problems, and no functional limitations; all three variables are dichotomously coded. Older adults are identified as having chronic health conditions if they meet any of the following criteria: (1) a doctor had ever diagnosed diabetes, a heart condition, stroke, lung disease, or cancer; (2) they saw a doctor for arthritis, or psychiatric problems in the past 12 months; or (3) they reported problems with urine control in the last 12 months, or were legally blind or had very poor eyesight. A person is identified as having a cognitive problem if he or she fails to answer correctly half or more questions in the Telephone Interview for Cognitive Status (TICS) or a proxy indicates that the person wanders, gets lost in familiar places, sees or hears things not there, or can not be left alone (Herzog & Wallace, 1997). Respondents are coded as having any functional limitation if they report having problems performing any Activities of Daily Living (ADLs) or any Instrumental Activities of Daily Living (IADLs). The ADL tasks considered are dressing, bathing, eating, toileting, walking across a room, and getting in or out of bed. The IADL tasks are

[4] "The RAND HRS is a user-friendly version of a subset of the HRS data. It contains cleaned and processed variables with consistent and intuitive naming conventions, model-based imputations and imputation flags, and spousal counterparts of most individual-level variables" (St. Clair, et al., 2008, p. 2).

preparing a hot meal, shopping for groceries, making a telephone call, and taking medications.

Personal Networks

Personal networks consist of two types of networks: family networks and social networks. Family networks refer to the demands/potential demands of family members. *Potential family demands* include the number of grandchildren an older person has and whether parents live nearby. The number of grandchildren counts how many grandchildren an older person has, ranging from 0 to 80. An older person is coded as having parents living nearby if his or her father/mother lives within 10 miles. *Current family demands* is measured by whether the spouse of an older adult has care needs. A spouse with care needs is a dichotomous variable. An older person is coded as having a spouse with care needs if the spouse has any chronic health conditions, cognitive problems, or functional limitations as defined under the physical resource measurement.

Two variables indicate *social networks*: religious services attendance and social visits. The religious service attendance is an ordinal measure with five levels: not at all, one or more times a year, two or three times a month, once a week, and more than once a week. The last variable to indicate social networks is social visits. The social visits variable is measured by the number of times in the past month an older adult visited or chatted with people who lived in or close to his or her neighborhood, ranging from 0 to 30 times.

Control variables

Several socio-demographics characteristics are documented to influence personal resources and social networks among older people. The following variables are controlled

in order to obtain the real impact of the predictor variables on engagement in productive activities: age, gender, marital status, race/ethnicity, and education.

Age reflects a respondent's actual age, ranging from 55 to 107 years old. While the normal retirement age of Americans is 65, older people who are 55 to 64 years old are expected to remain active in the labor force whereas those who are 65 and older are not likely to work. In the present study, older adults who are 55-64 or 65 years old are examined separately, and the 55-64 group is called "the younger cohort", and the 65+ group is called "the older cohort". *Gender* indicates whether a respondent is a male or female, and *Marital status* is coded as a dummy variable where married individuals are compared to those who are unmarried. Respondent's *race/ethnicity* is measured categorically, and comparisons are made among non-Hispanic White, Black, and Hispanic racial ethnic groups. *Education* is measured with the actual years of education which older people received, ranging from 0 to 17 years.

C. Analytical strategies

The RSM model that was proposed in Chapter 2 was developed based on the existing literature, and did not show prediction from each predictor variable to the three productive activities. However, in order to systematically test the applicability of the RSM model, all predictor variables (financial resources, physical resources, family networks, social networks, and socio-demographic characteristics) are included to predict older people's involvement in employment, volunteering and caregiving.

Estimating effects on the three productive activities

To identify appropriate analytical strategies, I first initiate non-weighted uni-variate and bi-variate statistics for each predictor variable and each productive activity

(employment *vs.* non-employment; volunteering *vs.* non-volunteering; caregiving *vs.* non-caregiving). Second, to test the influence of the personal resources, social networks and the involvement in the other two productive activities on whether older people work, volunteer or provide care, three separate binomial logistic regression models are applied to assess the independent impact of the predictors on older adults' involvement in employment, volunteering or caregiving.

The sample includes older people who are 55 years and older. As age is an important variable regarding involvement in productive activities especially employment and caregiving, two subgroups were identified for the analyses; those who are 55-64 years old (the younger cohort) and those who are older than 65 (the older cohort). Therefore, these two age groups are examined separately. Three binomial logistic regression models are applied to each age cohort, which result in a total of 6 models.

In addition, current literature documented that labor force participation is more likely for males than for females, and females are usually the primary caregivers in the family. To better capture males' and females' involvement in employment, volunteering and caregiving, men and women are examined separately in each age cohort. Three binomial logistic regression models are applied to each age cohort by gender, and 12 models in total are presented.

Although not many studies specify racial differences in employment, volunteering, and caregiving among older adults, examining Whites, Blacks and Hispanics separately is encouraged due to the observation of the higher percentages of church involvement for Blacks,different family structures for both Blacks and Hispanics, and varying issues related to access to employment and maintaining employment with age. For each age

cohort, three logistic regression models are applied to Whites, Blacks and Hispanics. This brings the total numbers of models to 18.

Estimating effects among the three productive activities

Literature has pointed out that older people involved in one productive activity may increase/decrease their participation in the other two productive activities. In the logistic regression models proposed in the previous paragraph, the other two productive activities are included in predicting employment, volunteering and caregiving. There are, however, possible mediating relationships that exist among the three productive activities. I will further elaborate the theoretical mediation framework that is considered in testing mediating effects on the three productive activities.

In Baron and Kenny's (1986) classical mediation diagram (Figure 3.1), X is the initial variable/independent variable, Y is the criterion variable/dependent variable, and M is the mediator. According to Judd and Kenny (1981) and Baron and Kenny (1986), three steps using multiple regression models should be applied to test for mediation:

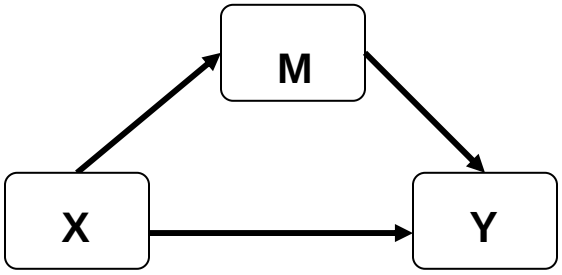
Step 1 – Use M as the criterion variable in a regression equation and X as a predictor.

Step 2 – Use Y as a criterion variable in a regression equation and X as a predictor.

Step 3 – Use Y as the criterion variable in a regression equation and both X and M as predictors.

Mediation effects exist if the following conditions hold: First, the independent variable (X) must affect the mediator (M) in Step 1; second, the independent variable (X) must be shown

Figure 3.1. Baron and Kenny's Mediation Diagram



to affect the dependent variable (Y) in Step 2; and third, the mediator (M) must affect the dependent variable (Y) in Step 3, and the effect of the independent variable (X) on the dependent variable (Y) must be less in the third equation than in the second (Baron and Kenny, 1986).

According to literature, mediation effects among the three productive activities are possible, and all of them have to do with time availability. For example, it is suspected that older people who give care will have less time to work, and according to Baron and Kenny, time availability (X) influence caregiving (Y), and employment (M). Therefore, working will mediate the effects of time on care provision. This same story applies to the mediating effects of other productive activities as well. With Volunteering, the time availability influences volunteering with caregiving mediating the time availability for volunteering. To determine whether possible mediation effects exist, the bi-variate relationships between two of the three productive activities will be examined first (in Chapter 4).

To obtain appropriate descriptive statistics and standard errors, I use normalized sampling weights and SVY commands in Stata's statistical package (StataCorp 2003).

Normalized weights adjust for the complex multi-stage area probability sample design of HRS, which has been post-stratified to the March 2004 Current Population Survey based on the birth-cohort of each unmarried individual and the birth cohorts of each spouse in married couples, their race/ethnicity, and their marital status. SVY commands handle statistical models for complex survey design via adjusting for sampling weights, clustering, and sample stratification by geographic location and size of place. SVY commands yield approximately unbiased or conservative variance estimates by taking into account clustering within primary and secondary sampling units and, implicitly, clustering within households (interviewing both members of couples).

CHAPTER 4

Results – Who are involved in productive activities?

This chapter explores who is involved in certain productive activities among older people, 55 years and older. The trends of involvement in the three productive activities (employment, volunteering and caregiving) were different by age (Figure 4.1). For example, employment decreased sharply from 55-69 and continued to decrease slowly after 70 years old. Volunteering was relatively consistent among older people prior to age 75 but started to decrease after age 75. Care provision among older people between 55 and 64 was similar but slowly decreased after age 65. The involvement in the three productive activities for the younger cohort (55-64) and the older cohort (65+) was presented in Figure 4.2. Figure 4.3 showed the involvement in the three productive activities for male and female. While fewer women than men were employed, more women volunteered and gave care. As for involvement in the three productive activities for Whites, Blacks and Hispanics, Figure 4.4 revealed that the rates of employment were similar across the three racial groups, but proportionally fewer Hispanics volunteered and more blacks provided care.

Figure 4.1. Trends of older adults' involvement in productive activities (n=15,312)

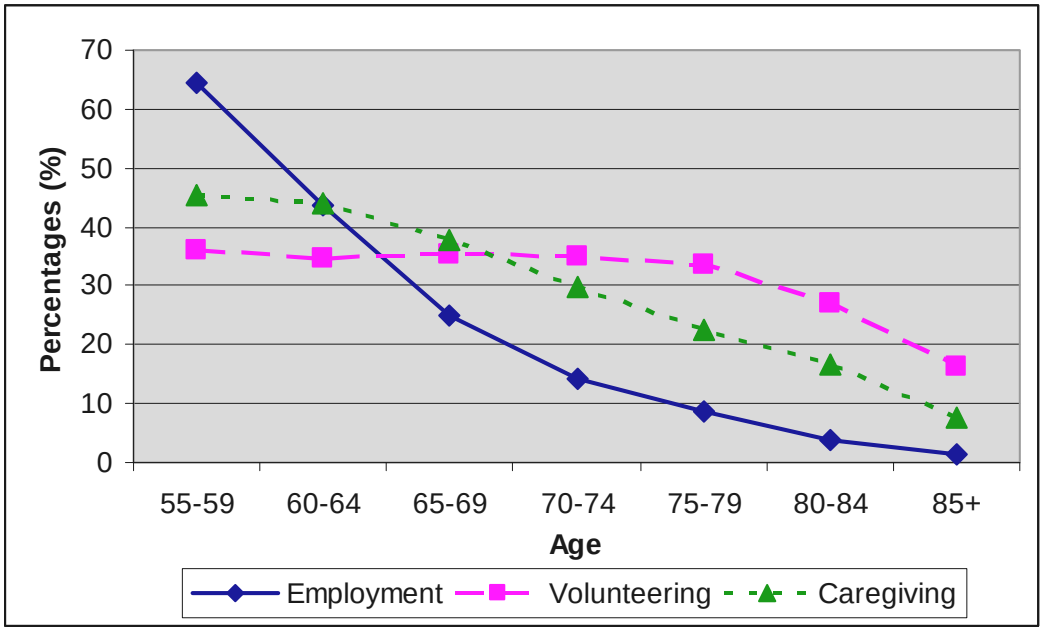


Figure 4.2. Older adults' involvement in productive activities by age (n=15,312)

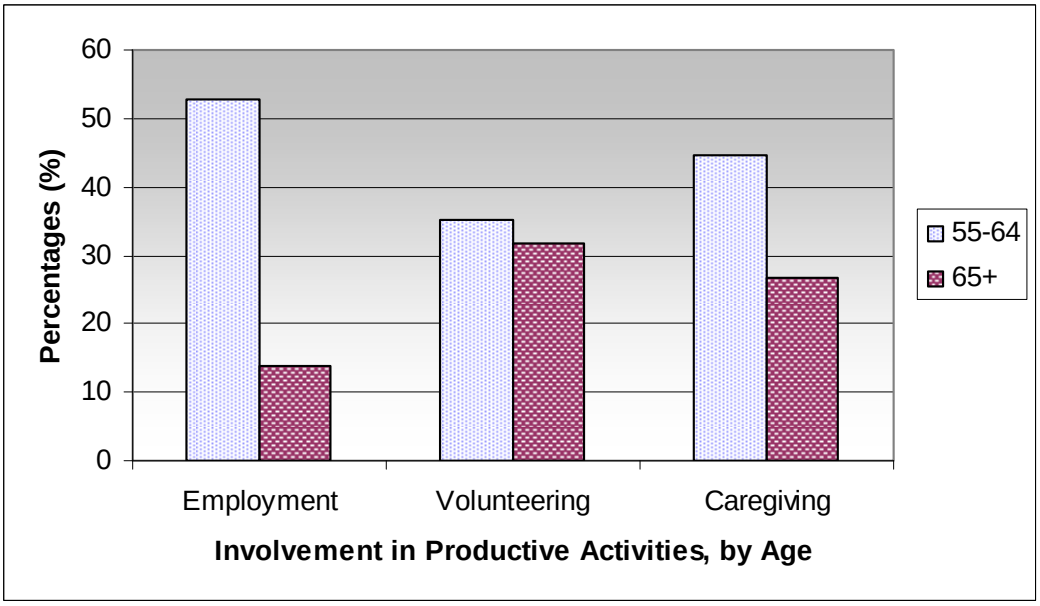


Figure 4.3. Older adults' involvement in productive activities by gender (n=15,312)

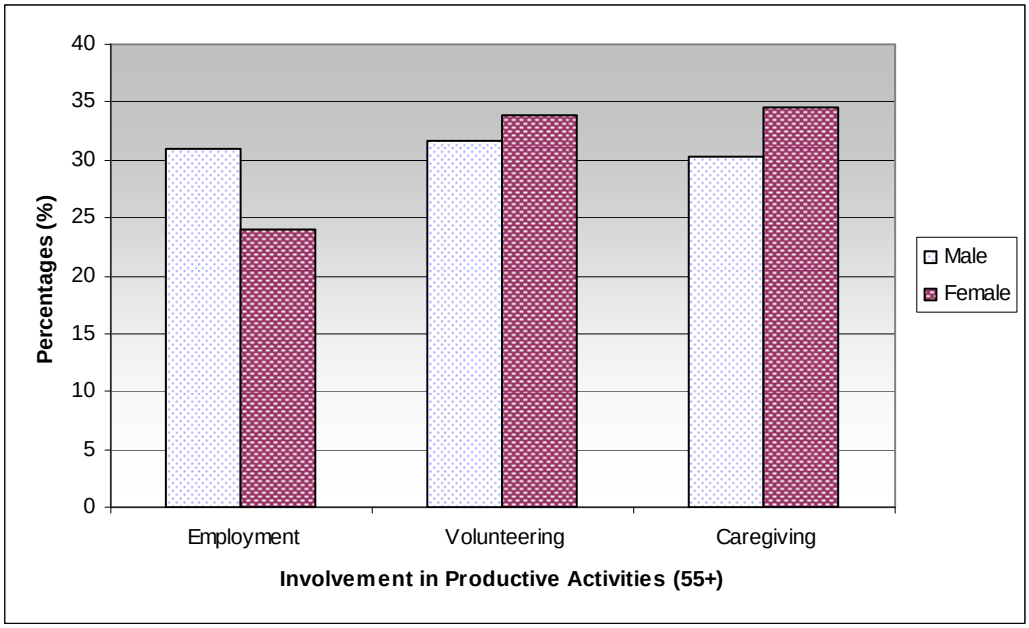
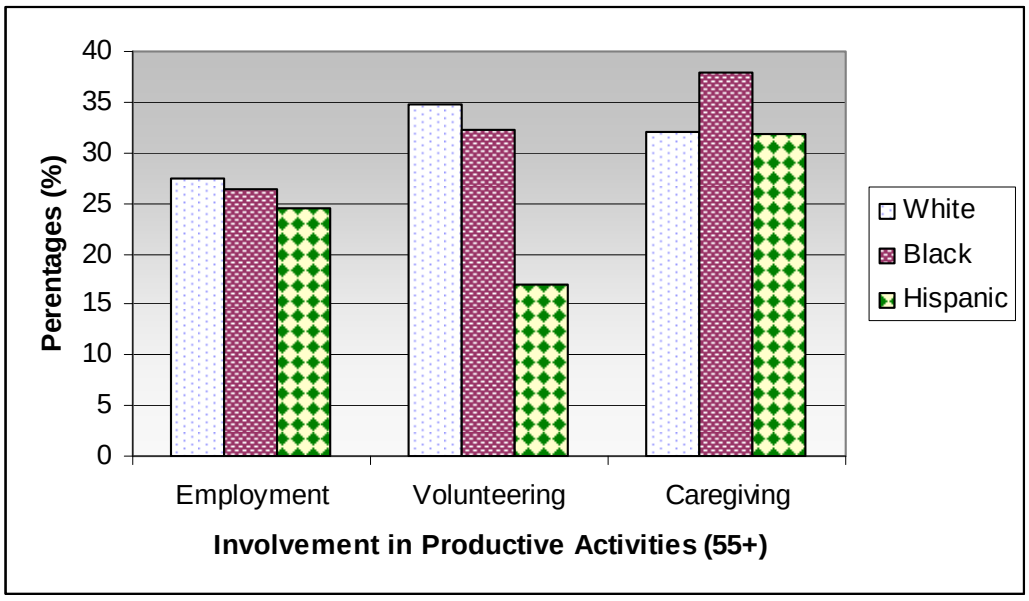


Figure 4.4. Older adults' involvement in productive activities by race (n=15,312)



The sample was examined in two cohorts with the assumption that older adults who are 55-64 years old (younger cohort) may behave differently regarding employment, volunteering, and caregiving from those who are 65 years and above (older cohort). Uni-variate and bi-variate distributions for all age 55+, the younger cohort, and the older cohort are presented.

Uni-variate distribution

A. All Age 55+

For older Americans who were 55 years and older, the first column in Table 4.1 showed their involvement in various productive activities, their financial resources, physical resources, family networks, social networks, as well as their socio-demographic characteristics.

Many older Americans worked, volunteered and provided care for their family members. More than a quarter of people who were 55 years and older were employed (n=4,135), and 67% of those employees worked full time (the mean working hours for both part-time and full-time workers was 36.9 hours per week, data not shown). About a third of these older adults volunteered, with their volunteer hours distributed relatively evenly across 4 hourly categories (from 1 to 50 hours per year to more than 200 hours per year). Specifically, there were 50.6% of older volunteers who contributed 1-100 volunteer hours for religious, educational, health-related or other charitable organizational activities, compared to 49.5% who volunteered for more than 101 hours in the past 12 months. There were 32.8% of the older adults who cared for other family members. Two thirds of these older caregivers provided 1-20 hours weekly care, and the other one thirds cared for their family members for more than 21 hours per week (Their

care provision extended to more than 18 hours per week, although large variance existed among these care providers, data not shown).

Financial resources in the present study included Social Security and pension income as well as household assets. The average Social Security and pension income, and household assets for older Americans was $15,927 and $440,118 respectively. These two indicators were both skewed, with the standard deviation for social security plus pension being $22,360 and $1,870,528 for the household assets. It is noteworthy that 18.7% (n=2,866) of the target population in the present study did not have any Social Security and pension income, but the majority of these people were under 64 years and older (n=2,630, see Table 4.2). In addition, household asset included debts; about 6% of the target population in the present study had zero or negative household assets (data not shown). Figure 4.5 to 4.7 showed the distribution of

Table 4.2. Social Security and pension income by age groups (n=15,312)

Age Groups	Social Security +Pension Income		
	$0	**$1+**	**Total**
55-64	n=2,630	n=2,593	5,233
65+	n=236	n=9,853	10,089
Total	**2,866**	**12,446**	**15,312**

household assets for workers vs. non-workers, volunteers vs. non-voluneers, and caregivers vs. non-caregivers by two age cohorts. In general, the distributions of household assets were similar for employment (Figure 4.5) and caregiving (Figure 4.7). It showed, however, that a greater proportion of volunteers in both age cohorts had more than $300,001 in household assets (Figure 4.6).

Figure 4.5. Household assets and Employment status by Age

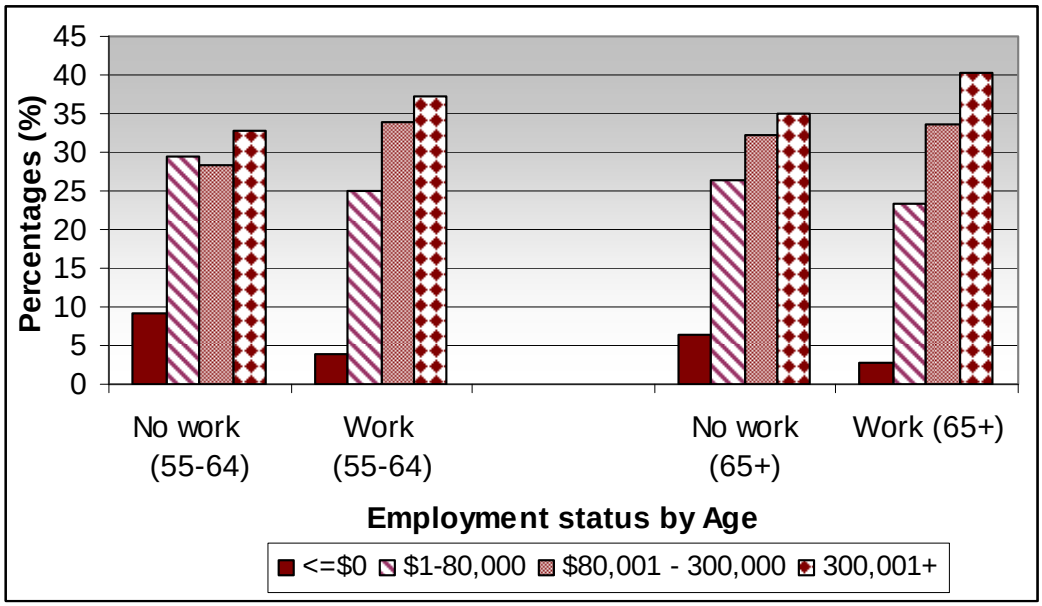


Figure 4.6. Household assets and Volunteer status by Age

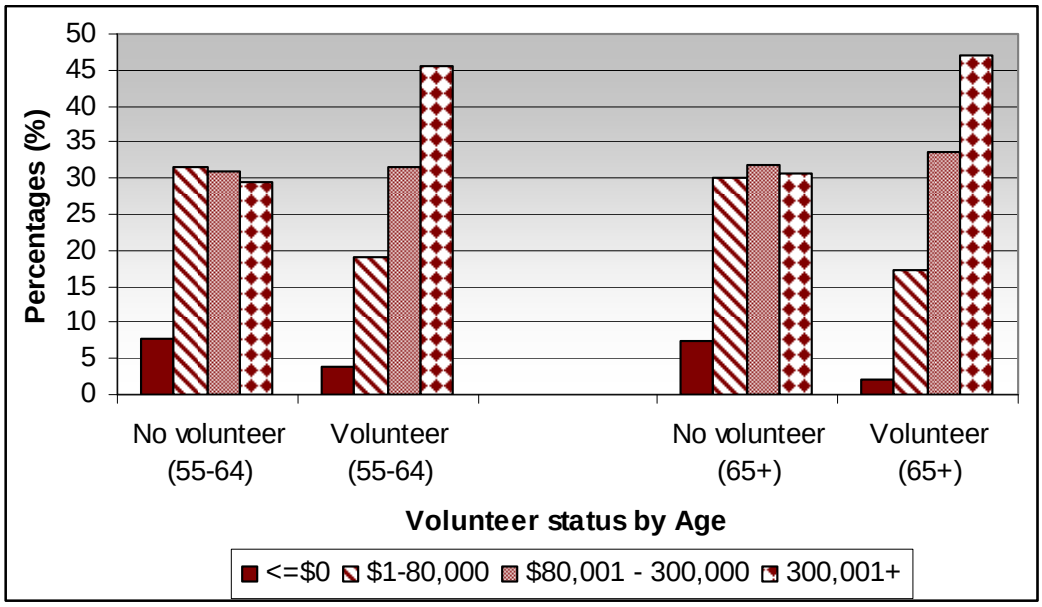
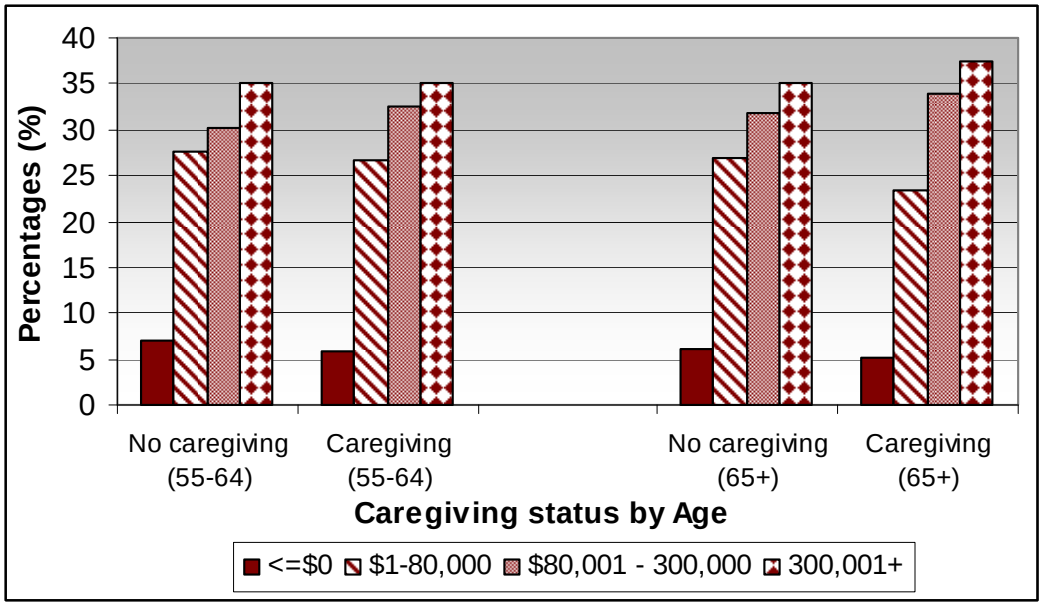


Figure 4.7. Household assets and Caregiving status by Age



Health resources were another set of indicators of personal resources, and the three factors that we considered in the present study included functional limitations, health conditions, and cognitive problems. Although most of the target population did not have any functional limitations (ADL or IADL problems) or any cognitive problems (75.2% and 96.1% respectively), 78.1% of the older adults had some kind of chronic health condition (e.g. diabetes, a heart condition, or stroke).

Family networks included potential family demands and current family demands. Number of grandchildren older people had and whether their parents lived nearby were indicators of potential family demands. Among older people who were 55 years and older, about 82% of them had at least one grandchild (data not shown), and on average, these older adults had 5.7 grandchildren. In terms of the presence of parents who lived nearby, 5% of the target population had parent(s) living within 10 miles. The current family demands were measured by whether spouse had any assistance needs due to functional

limitation, health conditions, or cognitive problems. In our target population, 47.7% of them had a spouse with assistance needs.

Social networks included religious activities that older people attended as well as the social visits to friends. The present study found that although roughly a quarter of older people were not involved in any religious activities, more than 43% of them attended religious services at least once a week. Older Americans varied in how often they visited friends; about 29% of them had not visited friends in the past 30 days, while 15% visited/contacted friends everyday (data not shown). The average social contacts with friends were about 7.6 times in the past month.

Majority of the older Americans in the present study were White (77.6%), and Black and Hispanics consisted of 13.6% and 8.8% of the target population respectively. It was also found that for older adults who were 55 years and older, 57.4% were female, and 63.2% were married (as to the breakdown of the non-married, 22% were widowed, 3% were never married, and 10% were separated/divorced, data not shown). Around 26% of the older adults in the present study did not complete high school with only, 35% receiving a high school diploma, 20% having some college education, and another 20% receiving college or graduate degrees (data not shown). On average, older Americans who were 55 years and older had completed 12.2 years of education. Among the 15,312 older adults, 5,223 were 55-64 years old (34%) and 10,089 were 65 years and older (66%); the average age for this target population was 69.5 years old.

B. 55-64 vs. 65+

Exploring personal resources, personal networks, and socio-demographic characteristics for older people in different age groups (55-64 as the younger cohort and

65+ as the older cohort), the second and third columns of the Table 4.1 showed distributions of these factors as well as the significance (*p*-value) of the differences between the younger and the older cohorts. While the sample size in the present study was very large, the impact of a predictor variable can be "reliably distinguished from zero…, but that effect is almost surely too small to be consequential" (Achen, 1982, p.47). Therefore, substantive importance would be discussed when such an effect is found.

Compared to the older cohort, the younger cohort were more likely to be involved in all three productive activities: 53% of older people who were 55-64 years old were working while only 14% of the elderly (65+) did so. For those who were still working, more than 75% of the older adults in the younger cohort worked full time, but less than half of those in the older cohort were full time workers. Slightly more of the younger cohort (35%) than the older cohort volunteered. Among volunteers, more than half of the younger cohort (53%) volunteered less than 100 hours per year, whereas 49% of volunteers in the older cohort contributed less than 100 hours per year. Consistent with the involvement in the previous two productive activities, 45% of the younger cohort cared for other family members, compared to 27% of the older cohort. Among caregivers, the majority of the older people in both age groups provided less than 20 hours of care per week (68% for the younger cohort and 64% for the older cohort).

For the younger cohort, their Social Security and pension income was $10,745, which was much less than that for the older cohort ($25,485). This difference was statistically significant, but was not unexpected. Although a person could start receiving Social Security retirement benefits on age 62, older people commonly retired at age 65. In other words, the majority of older people between 55 and 64 have no income from

Social Security or pensions. For example, Table 4.2 showed that 50.3% of the younger cohort did not receive any Social Security and pension, while only 2.3% of the older cohort did not have such income. Even though Social Security and pension income varied between these two age cohorts, household assets did not differ: the average household assets were $451,441 for the younger cohort and $434,256 for the older cohort.

These two age cohorts were also compared on health. As would be expected, those in the younger cohort had fewer health problems than those over age 65. For example, 71% of the older cohort was without functional limitations, 17% without any health conditions, and 94% had no cognitive problems. There were even more elders in the younger cohort free of functional limitations (84%), health conditions (31%) and cognitive problems (99%).

In terms of the family networks, older people in these two age groups differed in both indicators of potential family demands: number of grandchildren and the presence of proximate parents. People in the younger cohort had on average 4.6 grandchildren, and 11% of them had parents living within 10 miles. The average number of grandchildren for the older cohort was 6.3 and only 2% of them had parents living nearby. However, when considering current family demands, having a spouse with assistance need older people in the younger cohort and the older cohort did not differ, 48% vs. 47% respectively.

Religious attendance and social visits were two indicators of social events. Compared to the younger cohort, the older cohort was more likely to attend these two types of social events. Although a quarter of older people in these two age cohorts did not attend any religious activity, 46% of those in the older cohort attended religious services

at least once a week, whereas 38% of those in the younger cohort did so. Those in the older cohort were more likely to visit their friends, on average, than those in the younger cohort, 8.2 times in the past month vs. 6.3 times.

The average age for the older cohort was 74.4 years and 59.9 years for the younger cohort. Although racial differences between the two age cohorts were statistically significant, the race distributions were substantively similar for these two groups. There were more White people in the older cohort (79%) than in the younger cohort (75%). 15% of the younger cohort was Black and 10% Hispanics compared to the older cohort which had 13% Black and 8% Hispanic. As similar situation was found for gender distribution: 59% were female in the younger cohort and 57% in the older cohort. The majority of older people in both age cohorts were married, but there was a larger percentage in the younger cohort (71%) than in the older cohort (59%). Years of education differed between the two age cohorts. On average, older people in the younger cohort received 12.8 years of education and those in the older cohort received 11.9 years.

SUMMARY: Many older people who were 55 years and older were involved in productive activities, namely employment, volunteering and caregiving. When two age groups were considered separately (55-64, the younger cohort vs. 65+, the older cohort), those in the younger cohort were more likely than those in the older cohort to be active. When comparing their personal resources, personal networks, and socio-demographic characteristics, older people in these two age cohorts varied (e.g. people in the younger cohort had more personal resources but relatively fewer personal networks measures).

Bi-variate distribution

In order to better understand the distribution between independent variables (personal resources, social networks and sociodemographic characteristics) and dependent variables (e.g. employment, volunteering, and caregiving), Table 4.3 to Table 4.24 reported bi-variate results for the overall sample (55+) as well as two sub-cohorts, the younger cohort (55-64) and the older cohort (65+).

A. All age 55+

Table 4.3 showed the distribution of personal resources, social networks, and socio-demographics characteristics between those who did or did not participate in each productive activity (employment, volunteering and caregiving) among all adults who were 55 years and older.

Employment

Older workers and non-workers differed in many aspects of their personal resources, social networks, and sociodemographic characteristics.

(1) Compared to older non-workers, older workers had less Social Security and pension income, but had more household assets. For example, Social Security and pension income was $17,567 for workers and $27,749 for non-workers, whereas household assets were $502,698 for workers and $416,966 for non-workers. The differences for these two indicators between workers and non-workers were both statistically significant.

(2) Older workers reported fewer health problems for all three indicators of physical resources (functional limitations, chronic health conditions and cognitive problems) than non-workers did. For example, 92% of workers did not have any functional limitations, 35% did not have any health conditions, and 99% had no cognitive

problems, while for non-workers, there were 69%, 17% and 95% without functional limitations, health conditions, and cognitive problems respectively.

(3) Older workers had fewer grandchildren, but were more likely to have parents living nearby than non-workers. On average, workers had 4.7 grandchildren, and 9% of them had parents living within 10 miles; while non-workers had 6.1 grandchildren and only 4% had proximate parents. Findings did not show differences between workers and non-workers on whether they had a spouse needing assistance.

(4) Compared to older non-workers, workers had fewer social contacts with friends. Non-workers, however, visited/contacted friends more often (8.3 times in the past month) than workers did (5.6 times in the past month). Although statistical differences were shown, workers (77%) and non-workers (75%) did not seem to differ substantively in attending religious services.

(5) As for socio-demographic characteristics, workers were younger, were more likely to be non-White, male, married, and better educated than non-workers. The average age for workers was 62.8 years and 71.9 years old for non-workers. In regards to race, 21% of workers were non-White and 23% of non-workers were. Among workers, 51% were female and 71% were married, whereas there were 60% female and 60% married adults among older non-workers. The older workers were better educated with 13.2 years as compared to 11.9 years for non-workers.

Volunteering

Findings for older volunteers were similar to those for older workers in several ways. For example, like older workers, older volunteers had more Social Security and pension income, better health, and were more likely to attend religious services than non-

volunteers. In addition, compared to non-volunteers, volunteers were also more likely to be White, married, and better educated. Older volunteers, however, differed from older workers in the following four aspects. First, Social Security and pension income were higher for volunteers ($28,296) than for non-volunteers ($23,382). Second, the presence of proximate parents did not differ between volunteers (6% with parents living nearby) and non-volunteers (5% with parents living nearby) Third, 51% of older volunteers had a spouse needing assistance, compared to 46% for those who did not volunteer. Fourth, older volunteers contacted/visited friends more often (8.4 times in the past month) than older non-volunteers did (7.2 times in the past month). These differences were all statistically significant. It was also shown that statistical gender differences existed (59% of volunteers and 57% of non-volunteers were female), this differences, however, did not seem to be substantively important.

Caregiving

Older people's caregiving activity was consistent with their involvement in employment and/or volunteering in many areas.

(1) Unlike older workers and older volunteers whose financial resources were significantly different from their counterparts, older caregivers and older non-caregivers did not differ on either indicator of the financial resources. The Social Security and pension income for non-caregivers was $24,715 and was $25,583 for caregivers. Non-caregivers' average household assets were $434,333 and were $451,988 for caregivers.

(2) Consistent with the findings that older workers and older volunteers had better health than non-workers and non-volunteers, older care providers were healthier

than non-caregivers. 81% of older caregivers had no functional limitations and 99% had no cognitive problems, whereas 72% of non-caregivers had no functional limitations and 95% had no cognitive problems. Although many older people reported having health conditions, there were 23% caregivers did not have any health conditions and were 21% for non-caregivers.

(3) For older workers and older volunteers, demands in their family networks somewhat differed from their counterparts. However, for all indicators of family networks, caregivers were consistantly having more potential demands as well as current demands than non-caregivers and these differences were all statistically significant. Findings showed that on average caregivers had 6.5 grandchildren and non-caregivers had 5.3 grandchildren. There were 11% of caregivers having proximate parents compared to 3% presence of proximate parents for non-caregivers. In addition, 60% of caregivers and 41% of non-caregivers had a spouse with care needs.

(4) Similar to both workers and volunteers whose involvement in both indicators of social networks (religious attendance and social visits) differed from their counterparts statistically, caregivers and non-caregivers also differed on these two measures. Findings showed that 79% of caregivers attended religious services and 74% of non-caregivers did so. Caregivers have significantly less contact with friends than non-caregivers: caregivers visited/contacted friends 7.2 times in the past month, as compared to 7.8 times for non-caregivers.

(5) Compared to non-caregivers, caregivers were younger, were female, married, and better educated. For example, the mean age for caregivers was 66.2 years and was

71.1 years for non-caregivers. Among caregivers, 61% were female, 77% were married, and the average years of education was 12.4 years, whereas for non-caregivers, these distributions were 56%, 57%, and 12.1 years respectively. The distributions of all socio-demographics characteristics above were consistent among the three productive activities in which older people were involved, with the exception of gender.

B. Age 55-64 vs. 65+

Tables 4.4 to 4.18 showed the distribution between independent variables (personal resources, social networks, and socio-demographics) and dependent variables (employment, volunteering, and caregiving) for the two age groups: the younger cohort (55-64) and the older cohort (65+).

Employment

For both age cohorts (55-64 and 65+) in Table 4.4, older workers received less Social Security and pension income than non-workers, and such were statistically significant in both age cohorts. However, another indicator of financial resources, household assets, was different for these two age groups. For the younger cohort, household assets did not differ between workers and non-workers ($430,792 and $470,011 respectively); nonetheless, for the older cohort, workers had significantly more Social Security and pension income ($567,599) than non-workers had ($413,038).

Workers had better health than non-workers for all three indicators of physical resources (functional limitations, health conditions, and cognitive problems) and for both age cohorts. For example, 93% of workers in the younger cohort had no functional limitations, 40% had no health conditions and 100% had no cognitive problems; the

distributions were 73%, 22% and 99% for non-workers. Whereas for workers in the older cohort, 91% of them had no functional limitations, 26% had no health conditions and 99% had no cognitive problems; compared to the distributions of 67%, 16%, and 94% correspondingly for non-workers.

The distribution of demands in the family networks between workers and non-workers for the two age cohorts varied. First, for the younger cohort, workers had fewer grandchildren (3.9) than non-workers (5.3); whereas for the older cohort, numbers of grandchildren did not differ for workers and non-workers. Second, although workers were more likely to have parents live within 10 miles than non-workers for both age cohorts, the differences were marginally significant for the younger cohort, but were strongly significant for older cohort. Third, for the younger cohort, workers and non-workers did not differ in whether they had a spouse with care needs; however, for the older cohort, workers (50%) were marginally more likely to have a spouse needing care than non-workers (47%).

Statistically, workers and non-workers differed in the two indicators of social networks, religious attendance and social visits, for both age cohorts. Seventy-five percent of non-workers and 80% workers in the older cohort attended religious services. For the younger cohort, although differences in attending religious services were statistically significant between workers (76%) and non-workers (73%), no substantive importance could be identified. In addition, workers in the younger cohort visited/contacted friends 5.1 times in the past month, compared to 7.7 times for non-workers. For workers in the older cohort, they visited/contacted friends 6.6 times in the past month, and non-workers did so 8.5 times.

In terms of the socio-demographic characteristics for workers and non-workers in both age cohorts, the distributions were similar. Compared to non-workers in the younger cohort, workers in this age cohort were older (mean age for non-workers was 60.7 years old and 59.2years old for workers), and were Whites (71% non-workers were White and 78% workers were White). In addition, 53% of the workers were female and 73% married, while 65% of the non-workers were female and 69% were married. Workers in the younger cohort received 13.3 years of education while non-workers had 12.2 years. In the older cohort, 81% workers were White, 47% were female, 67% were married, and the average years of education for workers were 12.8 years; as to the non-workers, they were 79% White, 58% female, 58% married, and received 11.8 years of education.

Employment and gender

(a) Younger cohort (55-64)

Findings from Table 4.5 showed that among the younger cohort whose ages ranged from 55 to 64 years old (n=5,223), employment for males and females was similar in several aspects: Social Security and pension income, all three indicators of physical resources (functional limitations, health conditions, and cognitive problems), numbers of grandchildren, both indicators of social networks (religious attendance and social visits), age, race, and years of education. However, gender differences existed in four independent variables between workers and non-workers: household assets, presence of proximate parents, spouse with care needs, and marital status.

All workers in the younger cohort (55-64) did not differ in their household assets from the non-workers (see the first column of Table 4.4). However, when we consider males and females in this age cohort separately, differences occurred (Table 4.5). No

differences in household assets remained between female workers and non-workers; whereas for male workers, their household assets ($577,176) were significantly greater than those for male non-workers ($362,380).

For all workers in the younger cohort, they were more likely to have parents living nearby than non-workers, but workers and non-workers did not differ in having a spouse with care needs (see the first column of Table 4.4). These findings were not consistent for male workers and female workers. Table 4.5 showed that female workers were statistically more likely to have parents living within 10 miles (13%) but were less likely to have a spouse needing assistance (40%) comparing to 11% and 46% respectively for female non-workers. However, these two measures (presence of proximate parents and spouse with care needs) did not differ between male workers and non-workers.

The last variable that showed gender differences between workers and non-workers among the younger cohorts was marital status. Among all workers in the younger cohort, workers were more likely to be married (73%) than non-workers (69%) (see the first column of Table 4.4). However, when gender was taken into consideration, female workers and non-workers did not differ in their marital status, while male workers were more likely to be married (84%) than non-workers (75%) (Table 4.5).

(b) Older cohort (65+)

Compared to the second column in Table 4.4 where the bi-variate distributions between employment status and each independent variable for the older cohort were presented, Table 4.6 showed that the majority of findings were consistent to findings for the overall older cohort when male and female were examined separately. These aspects

included all indicators of physical resources (functional limitations, health conditions, and cognitive problems), family networks (number of grandchildren, presence of proximate parents, and spouse with care needs), social networks (religious attendance and social visits) and socio-demographics characteristics (age, race, marital status, and years of education). The only two indicators that showed gender differences between workers and non-workers were the Social Security and pension income, as well as the household assets.

Among all older adults who were 55 years and older, Social Security and pension income was greater for non-workers ($26,107) than for workers ($21,570) (see the second column of Table 4.4). For male workers, their Social Security and pensions ($22,778) was statistically less than that for non-workers ($30,113). However, Social Security and pensions did not differ between female workers and non-workers. Similar findings were found for the household assets.

Findings from the second column of Table 4.4 showed that household assets for workers in the older cohort ($567,599) were greater than assets for non-workers ($413,038). This finding applied to the employment status for male but not for females in the older cohort. In Table 4.6, male workers had more household assets ($698,997) than non-workers ($481,837); however, household assets for female workers did not differ from those for non-workers.

Employment and race

(a) Younger cohort (55-64)

Among the younger cohort, findings from Table 4.7 showed that employment for White, Blacks and Hispanics were similar in some aspects (e.g. Social Security and

pensions, functional limitations, health conditions, cognitive problems, number of grandchildren, presence of proximate parents, social visits, age, and years of education), but were different in others (e.g. household assets, spouse with care needs, religious attendance, gender, and marital status).

For the younger cohort, household assets did not differ between workers and non-workers (see the first column of Table 4.4). However, when three racial groups were considered separately, even though assets between workers and non-workers for both White and Blacks were similar, Hispanic workers had marginally more household assets ($189,695) than non-workers ($143,197).

Workers and non-workers did not differ in having a spouse with care needs (see the first column of Table 4.4). In Table 4.7, when bi-variate distributions were examined in three different racial groups, results showed that only White workers were less likely to have a spouse with care needs (49%) than those for non-workers (54%). Workers and non-workers for both Blacks and Hispanics did not differ in having a spouse with care needs.

Religious attendance was found to be significantly more likely for workers in the younger cohort than non-workers (see the first column of Table 4.4). In Table 4.7, when race was considered, both White workers (73%) and Black workers (93%) remained more likely to attend religious services than their counterparts (69% and 85% correspondingly), while Hispanic workers and non-workers did not differ in religious activities.

It was also found that among the younger cohort, workers were less likely to be female but more likely to be married than non-workers (see the first column of Table 4.4).

However, Table 4.7 showed that White workers (52%) and Hispanic workers (46%) were less likely to be female than non-workers (63% and 72% respectively), while gender differences were not found between Black workers and non-workers. As for marital status, White workers and non-workers did not differ, whereas workers for Blacks (58%) were more likely to be married than non-workers (47%); the same was true for Hispanics workers (71%) and non-workers (64%).

(b) Older cohort (65+)

Table 4.8 showed bi-variate distributions of independent variables and employment status for the older cohort by their race. It was found that employment of the older cohort for White, Blacks and Hispanics were similar in some aspects (e.g. household assets, functional limitations, health conditions, cognitive problems, number of grandchildren, presence of proximate parents, age, marital status and years of education), but were different for 5 variables (e.g. Social Security and pensions, spouse with care needs, religious attendance, social visits, and gender).

Workers in the older cohorts reported having less Social Security and pension income (see the second column of Table 4.4), but when three racial groups were examined separately (Table 4.8), workers and non-workers did not differ for both Blacks and Hispanics. Only White workers remained with significantly less Social Security and pension income ($22,457) than non-workers ($28,539).

It was also found that workers and non-workers differed marginally in having a spouse with care needs (see the second column of Table 4.4), but when three racial groups were checked individually, differences between workers and non-workers for both

White and Hispanics disappeared. Black workers, however, were more likely to have a spouse needing care (43%) than non-workers were (34%).

Among older cohort, workers and non-workers differed on both indicators of social networks, religious attendance and social visits. Whereas workers in this age cohort were more likely than non-workers to attend religious services, and workers visited/contacted friends fewer times than non-workers did (see the second column of Table 4.4). When three racial groups were examined separately, the above relationships remained for both White and Blacks, but disappeared for Hispanics. For both White and Black workers, religious attendance was more likely (78% for White workers and 91% for Black workers) than among their counterparts (73% for White non-workers and 85% for Black non-workers). In addition, both White and Black workers visited/contacted friends fewer times (6.6 times and 6.8 times respectively) than non-workers (8.6 times for White non-workers and 8.5 times for Black non-workers).

The first column of Table 4.4 showed that workers were less likely to be female than non workers. This finding was consistent among White and Hispanic workers but not Black workers. Table 4.8 showed that 45% of White workers and 58% of Hispanic workers were female, compared to 58% for White non-workers and 61% for Hispanic non-workers. As for Blacks, workers and non-workers were similar in gender distributions.

SUMMARY: The relationships between employment status and independent variables (personal resources, personal networks and socio-demographic characteristics) were similar to older people in the younger cohort and older cohort. When males and females were examined separately, the relationship between employment status and financial

resources was weaker for females than for males, especially in the older cohort. When three racial groups (White, Black and Hispanic) were considered separately, employment status was associated with most independent variables for White elders, but such relationships were less frequent among Blacks and the least among Hispanics.

Volunteering

Table 4.9 showed bi-variate relationships between independent variables and volunteering status for both age cohorts (55-64 and 65+). It was found that volunteering in these two age cohorts was similar on the majority of independent measures, but differed in the number of grandchildren they had.

Compared to non-volunteers, volunteers in both age cohorts had more Social Security and pensions: $12,838 for volunteers and was $9,609 for non-volunteers in the younger cohort, and for the older cohort, the amounts were $29,628 and $23,559 respectively. The same relationship applied to household assets. It was found that volunteers in the younger cohort had $633,210 in household assets while non-volunteers in the same age group had $352,744. In the older cohort, household assets for volunteers and non-volunteers were $596,593 and $358,815 correspondingly. Seemingly, volunteers had significantly more financial resources than non-volunteers regardless of age.

For both age cohorts, volunteers were healthier than non-volunteers. The first column of Table 4.9 showed that for the younger cohort, the percentage having no functional limitations, no health conditions and no cognitive problems were 89%, 35% and 100% for volunteers, whereas these numbers were 81%, 30% and 99% respectively for non-volunteers. Such relationships applied to the older cohort, and results from the

second column of Table 4.9 showed that the percentages of the older cohorts without functional limitations, health conditions, and cognitive problems were 84%, 20%, and 99% for volunteers and these numbers were 64%, 16% and 92% respectively for non-volunteers.

Potential and current family demands included numbers of grandchildren, presence of proximate parents (as potential demands), and a spouse with care needs (as current demands). Distributions of numbers of grandchildren between volunteers and non-volunteers for the two age cohorts were different. For the younger cohort, volunteers had significantly fewer grandchildren (4.0) than non-volunteers (4.9), while for the older cohort; numbers of grandchildren did not differ significantly between volunteers (6.1) and non-volunteers (6.3). The distributions of the other two indicators of family demands, presence of proximate parents and a spouse with care needs, between volunteers and non-volunteers were similar to both age cohorts. For example, volunteers and non-volunteers did not differ in having parents living within 10 miles for both younger and older cohorts. However, for the older cohorts, volunteers (52%) were more likely to have a spouse with care needs than non-volunteers (45%).

In terms of the social networks where older people involved themselves in different religious and social activities, volunteers and non-volunteers in both age cohorts were consistently more likely/often than non-volunteers to attend religious services and to visit friends. For example, in the younger cohort, volunteers were significantly more likely to attend religious services (89%) than non-volunteers (67%), and in the older cohort, the percentages were 92% and 68% respectively. Volunteers in the older chort contacted/visited friends more often in the past month (9.2 times) than non-volunteers

(7.7 times); whereas for the younger cohort, volunteers and non-volunteers did not seem to substantively differ that much in social visits (6.9 times and 6.0 times respectively).

For both age cohorts, volunteers were significantly more likely to be White, married, and better educated than non-volunteers. Compared to non-volunteers, volunteers were more likely to be white: for the younger cohort, 73% non-volunteers and 77% volunteers were white; for the older cohort, the percentages were 76% and 85% respectively. Volunteers in the younger cohorts were, married (77%), and received 13.9 years of education. Those in the non-volunteer group were, married (68%) with 12.2 years of education. As for volunteers in the older cohort, 67% were married with an average of 13.1 years of education, while non-volunteers were 55% married with 11.4 years of education.

Volunteering and gender

(a) Younger cohort (55-64)

Among the younger cohort, results from Table 4.10 showed that volunteering between male and female were similar in most aspects: financial resources (Social Security and pensions, and household assets), physical resources (functional limitations, health conditions, and cognitive problems), both potential family demands (number of grandchildren, and presence of proximate parents), social networks (religious attendance, and social visits), race, gender, marital status, and years of educations. Volunteering for male and female were only different in two factors: spouse with care needs, and age.

For those in the younger cohort (55-64), the first column of Table 4.9 showed that volunteers had greater financial resources (both Social Security and pensions as well as household assets) than non-volunteers. When females and males were considered

separately, the above relationships remained. In Table 4.10, Social Security and pension income were $14,648 for female volunteers and $10,522 for non-volunteers, where as they were $10,090 and $8,361 for male volunteers and non-volunteers. In addition, for both male and female, volunteers had significantly more household assets than non-volunteers. Female volunteers had on average $545,639 household assets and $355,491 for non-volunteers; whereas household assets were $766,126 for male volunteers and $348,988 for non-volunteers.

Compared to non-volunteers, volunteers in the younger cohort (55-64) were healthier than non-volunteers (see the first column of Table 4.9), and such relationships remained when volunteering were examined separately for males and females (Table 4.10). 88% of the female volunteers in the younger cohort were without any functional limitations, 28% had no health conditions, and 100% had no cognitive problems. Non-volunteers were slightly worse off in these categories, 79%, 24% and 99% respectively (see Table 4.10). Male volunteers were also healthier than non-volunteers. The percentages for male volunteers not having functional limitations, health conditions, and cognitive problems were 91%, 45%, and 100%. These figures were 83%, 37% and 99% for male non-volunteers.

In terms of the three measurements of family networks for older people in the younger cohort, volunteers had fewer grandchildren but were more likely to have a spouse needing care than non-volunteers, but volunteers and non-volunteers did not differ in whether parents were living nearby (see the first column of Table 4.9). In Table 4.10, female volunteers had fewer grandchildren (4.4) than non-volunteers (5.3), and the same finding applied to male volunteers who had 3.5 grandchildren whereas non-volunteers

had 4.2 grandchildren on average. The presence of proximate parents was no different between volunteers and non-volunteers for the younger cohort (see the first column of Table 4.9), or for female and for male in the younger cohort (Table 4.10). As for the last indicator of family networks, a spouse with care needs, gender differences existed between volunteers and non-volunteers. It was found that volunteers in the younger cohort were more likely to have a spouse needing assistance (Table 4.9, the first column). When male and female were examined separately (Table 4.10), female volunteers and non-volunteers were similar in having a spouse with care needs. However, male volunteers were significantly more likely to have a spouse needing care (58%) than non-volunteers (53%).

Religious attendance and social visits were the two indicators of social networks. Compared to non-volunteers, volunteers were more involved in both activities (see first column of Table 4.9). Such relationships remained when female and male were examined separately. In Table 4.10, 91% of female volunteers attended religious services, whereas only 71% of non-volunteers did so. As to male volunteers, religious attendance was 85% for volunteers and 62% for non-volunteers. On average, female volunteers contacted/visited friends 6.7 times in the past month while non-volunteers visited 5.8 times. The frequencies of contacting/visiting friends for male volunteers were 7.3 times in the past month compared to 6.3 times for non-volunteers.

The majority of socio-demographics characteristics were similar for males and females. The remaining socio-demographics characteristics remained similar for males and females. The first column of Table 4.9 showed that more volunteers were white, female, married, and better educated than non-volunteers. More male volunteers were

white (79%) compared to 76% for female volunteers. This picture remained consistent for the non-volunteers where 76% were white and 71% were female non-volunteers. For those in the younger cohort, female volunteers were more likely to be married and better educated than non-volunteers, and as were male volunteers. For example, 71% of female volunteers were married, compared to 62% of female non-volunteers; these distributions were 86% and 77% for males. Volunteers were also more likely to be better educated than non-volunteers (see the first column of Table 4.9), and this observation remained when male and female were examined separately. In Table 4.10, the average years of education were 13.8 for female volunteers and 12.0 for non-volunteers. Similar results were found for male volunteers (14.1%) and non-volunteers (12.4%).

(b) Older cohort (65+)

For the older cohort, Table 4.11 showed strong similarity among the variables considered with the exception of number of grandchildren these older people had. No gender differences existed between volunteering and non-volunteering for the following aspects: financial resources (Social Security and pensions, and household assets), physical resources (functional limitations, health conditions, and cognitive problems), two of the three indicators of family networks (presence of proximate parents and a spouse with care needs), social networks (religious attendance, and social visits), and all socio-demographic characteristics (age, race, gender, marital status, and years of educations).

Volunteers in the older cohort had more financial resources on both indicators: Social Security and pensions as well as household assets (Second column, Table 4.9). When volunteering was examined by gender, Table 4.11 showed that female volunteers

had significantly more Social Security and pension income ($27,801) and household assets ($496,887) than non-volunteers ($20,528 of Social Security and pensions and $308,438 of household assets). This distribution applied to male volunteers whose Social Security and pension income and household assets were $32,184 and $736,136, compared to the non-volunteers whose Social Security and pension income and household assets were $27,414 and $736,136.

Volunteers in the older cohort were healthier than non-volunteers (see the second column of Table 4.9), and this finding remained when bi-variate relationships were examined by gender. In Table 4.10, female volunteers had fewer health problems (83% without functional limitations, 17% had no health conditions and 99% without cognitive problems) than non-volunteers (61% had no functional limitation, 13% without health conditions, and 92% without cognitive problems). This held true among males who volunteered in the older cohort. Compared to male non-volunteers, male volunteers were also healthier: 86% had no functional limitations, 24% had no health conditions, and 98% without cognitive problems. These numbers were 68%, 19% and 93% for male non-volunteers respectively.

There was no difference in number of grandchildren between the volunteers and non-volunteers in the older cohort (Second column, Table 4.9). This finding remained when males and females in the older cohort were considered separately (although female volunteers had marginally fewer grandchildren (6.2) than non-volunteers (6.5), the substantive difference was unfounded). As for the other two indicators of family networks, presence of proximate parents and a spouse with care needs (the second column of Table 4.9) in the older cohort, volunteers and non-volunteers did not differ in

having parents living within 10 miles, but volunteers were more likely to have a spouse needing assistance. The distributions were the same when males and females were examined individually. In Table 4.11, no differences between volunteers and non-volunteers were found for the presence of proximate parents for both males and females. In addition, female volunteers were significantly more likely to have a spouse needing care (42%) than non-volunteers (34%). This is the case for male volunteers (67%) and non-volunteers (60%) as well.

In terms of the two indicators of social networks, volunteers were more likely/often to attend religious services and visit their friends than non-volunteers (see the second column of Table 4.9). When the older cohort was divided into two groups by gender, the relationships remained the same for both males and females. For example, compared to female non-volunteers (72%), female volunteers were significantly more likely to attend religious services (93%) (Table 4.11). Such distribution applied to males in the older cohort where 90% of male volunteers and 64% of non-volunteers attended religious services. Female volunteers also contacted/visited friends more often (9.4 times in the past month) than female non-volunteers (7.4 times in the past month), and so as to male volunteers (8.9 times in the past month) compared to male non-volunteers (8.2 times in the past month).

Compared to non-volunteers, volunteers in the older cohort were white, married, and better educated (see the second column of Table 4.9). These relationships remained when male and female were examined separately. In Table 4.11, female volunteers were significantly more likely to be white (84%) and married (53%) than non-volunteers (75% white and 42% married). Consistent with findings for females, there were 86% white and

86% married among male volunteers, compared to 78% white and 73% married for male non-volunteers.

Volunteering and race

(a) Younger cohort (55-64)

Among the younger cohort, (Table 4.12) volunteering among three racial groups was similar in some aspects: household assets, functional limitations, potential family demands (number of grandchildren, and presence of proximate parents), religious attendance, age, and years of educations. Volunteering for Whites, Blacks and Hispanics was different among some other factors: Social Security and pensions, health conditions, cognitive problems, spouse with care needs, social visits, gender, and marital status.

It was found that volunteers in the younger cohort had more Social Security and pension income as well as household assets than non-volunteers (see the first column of Table 4.9). When three racial groups were examined separately, Social Security and pension income varied between volunteers and non-volunteers, whereas household assets remained the same for volunteers and non-volunteers in Whites, Blacks and Hispanics. In Table 4.12, White volunteers ($13,159) and Black volunteers ($13,580) both had greater Social Security and pension income than their counterparts ($10,687 for White non-volunteers and $7,731 for Black non-volunteers). However, among Hispanics, volunteers and non-volunteers did not differ in such income.

Volunteers in the younger cohort were healthier than non-volunteers, and this was reflected on all three indicators of physical resources (see the first column of Table 4.9). When three racial groups were examined separately, only one relationship holds: volunteers were more likely to have no functional limitations for all Whites, Blacks and

Hispanics (Table 4.12). Volunteers were more likely to have no health conditions among Whites and Blacks (36% and 30%) than non-volunteers (31% Whites and 21% Blacks); Hispanic volunteers (36%) and non-volunteers (32%) were similar with no health conditions. As for the cognitive problems, White volunteers (100%) and Hispanic volunteers (100%) were more likely to have no cognitive problems than non-volunteers (99% Whites and 97% Hispanics), whereas Black volunteers (99%) and non-volunteers (98%) did not differ in this measure.

Among the younger cohort, volunteers had fewer grandchildren than non-volunteers, but did not differ in having parents living nearby (see the first column of Table 4.9). These two findings remained across three racial groups when Whites, Blacks and Hispanics were considered separately (Table 4.12). As for the current family demands, findings from the first column of Table 4.9 showed that volunteers were more likely to have a spouse needing care. This relationship disappeared for Whites and Hispanics (Table 4.10); only Black volunteers (40%) were significantly more likely to have a spouse with care needs than non-volunteers (33%).

Older volunteers whose ages ranged from 55 to 64 years old were more likely to attend religious services and visit their friends more often than non-volunteers (see the first column of Table 4.9). The relationship between volunteers and religious attendance remained when Whites, Blacks and Hispanics were considered separately, but not for the social visits (Table 4.12). There were significant differences in social visits by race: White volunteers (7.0 times per month) and Hispanic volunteers (8.2 times per month) contacted/visited friends significantly more often than non-volunteers (6.0 times for

Whites and 4.8 times for Hispanics), whereas social visits did not differ between Black volunteers and non-volunteers.

In the younger cohort, volunteers were more likely to be female, married and better educated (see the first column of Table 4.9), but when three racial groups were examined individually, only the distributions between years of education and volunteers remained significant (Table 4.10). White volunteers had more females (59%), compared to non-volunteers (56%); however, gender differences were not found between volunteers and non-volunteers for Blacks and Hispanics. In addition, White volunteers (82%) and Black volunteers (59%) were more likely to be married than non-volunteers (73% for Whites, and 48% for Blacks), whereas such relationships did not exist for Hispanics.

(b) Older cohort (65+)

Table 4.13 showed bi-variate distributions of independent variables and volunteering status for the older cohort by their race. Volunteering status of the older cohort for Whites, Blacks and Hispanics were similar in some aspects (e.g. Social Security and pensions, household assets, functional limitations, cognitive problems, presence of proximate parents, religious attendance, age, marital status and years of education), but were different for 5 variables (e.g. health conditions, number of grandchildren, spouse with care needs, social visits, and gender).

Volunteers in the older cohort had significantly more financial resources (Social Security and pensions as well as household assets) than non-volunteers (see the second column of Table 4.9). These relationships remained when Whites, Blacks, and Hispanics were considered separately (Table 4.10). For example, Social Security and pension income for volunteers were $30,773 for Whites, $24,143 for Blacks, and $20,346 for

Hispanics, compared to $26,095, $16,103, and $14,289 for non-volunteers respectively. Household assets for volunteers were $676,827 for Whites, $137,454 for Blacks, and $182,805 for Hispanics, whereas they were $437,690 for Whites, $79,907 for Black, and $131,419 for Hispanic non-volunteers.

In the older cohort, volunteers were significantly healthier than non-volunteers in all three indicators (functional limitations, health conditions, and cognitive problems) (second column, Table 4.9). Table 4.13 showed such relationships by three racial groups, and findings showed that volunteers continued to have fewer health problems than non-volunteers on functional limitations and cognitive problems for Whites, Blacks and Hispanics. However, results on health conditions and volunteering status were different for the three racial groups. White volunteers (20%) and Black volunteers (19%) were more likely to have no health conditions than non-volunteers (15% for Whites and 14% for Blacks); whereas health conditions between volunteer and non-volunteers did not differ for Hispanics.

In terms of family networks, volunteers and non-volunteers in the older cohort did not differ in the numbers of grandchildren and having parents living nearby, but volunteers were more likely to have a spouse with care needs than non-volunteers (see the second column of Table 4.9). In Table 4.13, when Whites, Blacks and Hispanics were considered separately, there was no difference in having parents nearby for volunteers and non-volunteers across the three racial groups. However, relationships between numbers of grandchildren and volunteering status for the three racial groups were different. First, White volunteers (5.9) had significantly more grandchildren than non-volunteers (5.6), although this difference did not seem to be substantively important.

Second, Black volunteers (7.0) had significantly fewer grandchildren than non-volunteers (8.7). Last, numbers of grandchildren did not differ between Hispanic volunteers and non-volunteers. As for having a spouse with care needs, findings from Table 4.13 showed that White volunteers (54%) were more likely to have a spouse needing care than non-volunteers (47%), while volunteers and non-volunteers for both Blacks and Hispanic did not differ in such measure.

Social networks, indicated by both religious attendance and social visits, were more likely among volunteers than non-volunteers (see the second column of Table 4.9). Such relationships for religious attendance remained when Whites, Blacks and Hispanics were considered separately (Table 4.13). However, when examining the distribution between social visits and volunteering status across three racial groups, findings showed that White volunteers and Hispanic volunteers (9.3 vs. 9.8 times in the past month) contacted/visited friends more often than non-volunteers (7.8 times in the past month for Whites and 7.0 times for Hispanics). Social visits did not differ between Black volunteers and non-volunteers.

Volunteers were younger than non-volunteers (Table 4.13). The average ages for volunteers were 73.5 for Whites, 71.5 for Blacks and 71.3 for Hispanics, whereas for non-volunteers, ages were 75.4, 74.0 and 73.5 for Whites, Blacks, and Hispanics, although these differences were not substantively important. From the second column of Table 4.9, volunteers in the older cohort were more likely to be married and better educated. This relationship remained across three racial groups. For example, 69% White volunteers, 51% Black volunteers and 70% Hispanic volunteers were married, compared to 58% Whites, 40% Black and 57% Hispanic non-volunteers were. In addition, the

average years of education for volunteers was 13.4 years for Whites, 11.9 years for Blacks, and 9.6 years for Hispanics, whereas these numbers were 12.1 years, 10.0 years and 7.3 years for non-volunteers respectively.

SUMMARY: Older people in the younger cohort and older cohort were similar in their relationships between volunteering status and independent variables (personal resources, personal networks and socio-demographic characteristics). When gender was taken into consideration, the above relationships remained similar. As for the three different racial groups, the volunteering status was associated with most of the independent variables for Whites in the older cohort. Such relationships were weaker for Blacks and Hispanics in both younger cohort and older cohort.

Caregiving

Table 4.14 showed that caregivers and non-caregivers in the younger cohort (55-64) did not differ in either of these two indicators of financial resources, Social Security and pensions as well as household assets. Although caregivers and non-caregivers in the older cohort (65+) also did not differ in household assets, caregivers in the older cohort had significantly more Social Security and pension income ($28,030) than non-caregivers ($24,558).

Physical resources and caregiving status for the two age cohorts were different. In the younger cohort, functional limitations and cognitive problems between caregivers and non-caregivers were no different; however, caregivers were significantly less likely to have no health conditions (28%) than non-caregivers (34%). However, caregivers in the older cohort were healthier on all three indicators than non-caregivers. For example, the

percentages of caregivers with no functional limitations, health conditions, and cognitive problems were 79%, 19%, and 98% for caregivers, compared to the 68%, 16% and 93% respectively for non-caregivers.

The three measures of family networks and caregiving status were consistent for both age cohorts; caregivers had greater family demands than non-caregivers. In the younger cohort, caregivers had 5.5 grandchildren and non-caregivers had 3.8 grandchildren. Caregivers in the older cohort also had significantly more grandchildren (7.3) than non-caregivers (5.9). Caregivers in the younger cohort were more likely to have parents living near by (17%) and have a spouse with care needs (55%) than non-caregivers (7% had proximate parents and 42% had a spouse needing care). The relationships were the same for the older cohort: 6% and 65% of caregivers in the older cohort had parents living within 10 miles and had a spouse with care needs, compared to 1% and 41% respectively for non-caregivers.

As for the two indicators of social networks, caregivers were more likely to attend religious services (78% for the younger cohort and 80% for the older cohort) than non-caregivers (72% for the younger cohort and 74% for the older cohort). However, finding did not show differences of social visits between caregivers and non-caregivers for both the younger cohort and older cohort.

Some relationships between socio-demographics and caregiving status differed between the two age cohorts whereas some were the same. In the younger cohort, caregivers and non-caregivers did not differ in their age, but caregivers in the older cohort were significantly younger (71.7 years old) than non-caregivers (75.4 years old). There were more female caregivers (64%) in the younger cohort than non-caregivers

(54%), but in the older cohort, gender differences did not exist between caregivers and non-caregivers. As for marital status, findings from Table 4.14 showed that for both age cohorts, caregivers (77% for the younger cohort and 76% for the older cohort) were more likely than non-caregivers (67% for the younger cohort and 53% for the older cohort) to be married. Years of education and caregiving status showed opposite relationships for the younger cohort and the older cohort. For instance, it was found that caregivers in the younger cohort received fewer years of education (12.7 years) than non-caregivers (12.9 years); whereas caregivers in the older cohort were better educated (12.1 years) than non-caregivers (11.8 years).

Caregiving and gender

(a) Younger cohort (55-64)

For the younger cohort whose ages ranged from 55 to 64 years old, results from Table 4.15 showed that caregiving between males and females was similar in most aspects: financial resources (Social Security and pensions, and household assets), functional limitations, and cognitive problems), family networks (number of grandchildren, presence of proximate parents, and spouse with care needs), social visits, age, gender, and marital status. Caregiving for male and female were different in four factors: health conditions, religious attendance, race and years of education.

In the younger cohort (the first column of Table 4.14), no differences were found between caregivers and non-caregivers in their Social Security and pensions as well as household assets. This observation held when males and females were considered separately (Table 4.15).

Two indicators of physical resources (functional limitations and cognitive problems) did not show any significant difference between caregivers and non-caregivers for people in the younger cohort (see the first column of Table 4.14). When males and females were examined separately, these findings remained (Table 4.15). However, the first column of Table 4.14 showed that in the younger cohort, fewer caregivers reported not having health conditions (28%) than non-caregivers (34%). When looking at males and females individually, Table 4.15 showed that health conditions did not differ between caregivers and non-caregivers for females, but significant fewer male caregivers (36%) had no health conditions than non-caregivers (42%).

Caregivers in the younger cohort were found to have more demands from the family networks (see the first column of Table 4.14), and when male and female were considered separately, the relationship remained (Table 4.15). For example, caregivers had more grandchildren (5.8 for females and 5.0 for males) than non-caregivers (4.2 for females and 3.3 for males). Female caregivers were also more likely to have parents living nearby (17%) and to have a spouse with care needs (50%) than non-caregivers (7% had proximate parents and 38% had a spouse needing care). In addition, 16% of male caregivers had parents living nearby and 65% had a spouse with care needs (65%), whereas the distributions for male non-caregivers were 6% and 48% on these two measures.

In the younger cohort, caregivers were more likely to attend religious services (see the first column of Table 4.14), but when males and females were examined individually, such relationships remained for females but disappeared for males (Table 4.15). Results from Table 4.15 showed that female caregivers (82%) were significantly

more likely to attend religious services than non-caregivers (75%); however, there was no difference between caregivers and non-caregivers for males. When considering another indicator of social events, social visits, caregivers and non-caregivers did not differ in how many times they visited friends (see the first column of Table 4.14). When males and females were examined separately, social visits still did not differ between caregivers and non-caregivers for both males and females (Table 4.15).

Caregivers and non-caregivers in the younger cohort did not differ in age (see the first column of Table 4.14), and this observation applied to males and females (Table 4.15). It was found that caregivers in the younger cohort were more likely to be married than non-caregivers (see the first column of Table 4.14), and this relationship remained for both males and females (Table 4.15). For example, 71% of female caregivers were married, compared to 60% of non-caregivers; further, male caregivers were also more likely to be married (86%) than non-caregivers (76%). Results from the first column of Table 4.14 showed that caregivers in the younger cohort received fewer years of education than non-caregivers. However, this finding only remained for male caregivers (12.8 years) and non-caregivers (13.1 years), although it was not substantively important. Years of education did not differ between female caregivers and non-caregivers.

(b) Older cohort (65+)

Table 4.16 showed results examining caregiving between males and females. The majority of findings (from Table 4.16) were consistent with findings for the overall older cohort (from the second column of Table 4.14): physical resources (functional limitations, health conditions, and cognitive problems), family networks (number of grandchildren, presence of proximate parents, and spouse with care needs), religious attendance, age,

gender, marital status, and years of education. Gender differences were found in 4 aspects: Social Security and pensions, household assets, social visits, and race.

For caregivers in the older cohort, their Social Security and pension income were greater than non-caregivers (see the second column of Table 4.14). This relationship remained for female caregivers who had Social Security and pension income of $25,573, compared to $21,913 for non-caregivers. However, Social Security and pensions did not differ between male caregivers and non-caregivers. As for household assets, caregivers and non-caregivers were no different in the older cohort (see the second column of Table 4.14). This finding remained consistent for male caregivers and non-caregivers, but not for females (Table 4.16). Results from Table 4.16 showed that female caregivers had significantly greater household assets ($414,804) than non-caregivers ($353,316).

As for the physical resources (the second column of Table 4.14), findings showed that caregivers in the older cohort were healthier on all three indicators (functional limitations, health conditions, and cognitive problems) than non-caregivers. Table 4.16 showed such relationships remained for both males and females. For example, the percentages of female caregivers not having functional limitations, health conditions, and cognitive problems were 78%, 16% and 98%, whereas the numbers were 65%, 14% and 93% respectively for non-caregivers. Male caregivers who had no functional limitations, health conditions, and cognitive problems were 79%, 22% and 97% compared to 72%, 20% and 94% correspondingly for male non-caregivers.

The second column of Table 4.14 also showed that caregivers in the older cohort had greater family networks (both potential demands and current demands) than non-caregivers. This finding remained when males and females were considered separately

(Table 4.16). Female caregivers had more grandchildren (7.5) than non-caregivers (6.0), and so did male caregivers (7.1) compared to male non-caregivers (5.7). In addition, compared to female non-caregivers where 1% of had parents living nearby and 30% had a spouse needing care, the distributions for female caregivers were 6% and 54%. Male caregivers were also more likely to have parents living within 10 miles (6%) and to have a spouse with care needs (79%) than non-caregivers (1% had proximate parents and 56% had a spouse needing care).

In the older cohort, caregivers were more likely than non-caregivers to attend religious services (see the second column of Table 4.14), and this applied to both males and females. In Table 4.16, findings showed that 84% of female caregivers attended religious services compared to 77% of non-caregivers. Male caregivers were also more likely to attend religious services (76%) than non-caregivers (71%). Social visits were the second indicator of social networks, and findings from the second column of Table 4.14 showed that caregivers and non-caregivers did not differ in contacting/visiting friends. This observation remained for male caregivers and non-caregivers, but not for females (Table 4.16). Female caregivers contacted/visited significantly fewer friends in the past month (7.4 times) than non-caregivers (8.3 times).

Caregivers in the older cohort were younger than non-caregivers (see the second column of Table 4.14), and this relationship remained when males and females were examined individually (Table 4.16). The second column of Table 4.14 showed that caregivers were less likely to be White. When males and females were considered separately, female caregivers remained less likely to be White (74%) than non-caregivers (80%), but no racial difference was found between male caregivers and non-caregivers.

Caregivers in the older cohort were more likely to be married and better educated (see the second column of Table 4.14). The relationships were the same when males and females were checked separately. In Table 4.16, 65% female caregivers and 92% of male caregivers were married, compared to 38% of the females and 71% of the males for non-caregivers. On average, female caregivers received 12.1 years of education whereas non-caregivers had 11.7 years. As to male caregivers and non-caregivers, their years of education were 12.2 years and 12.0 years respectively. Although statistically significant, education was not substantively differed between caregivers and non-caregivers for both males and females.

Caregiving and race

(a) Younger cohort (55-64)

Caregivers and non-caregivers in the younger cohort were not significantly different in their financial resources: household income from the Social Security and pensions as well as household assets (see the first column of Table 4.14). These no-difference relationships between caregivers and non-caregivers remained when Whites, Blacks and Hispanics were examined separately (Table 4.17).

As to the physical resources in the younger cohort, caregivers and non-caregivers did not differ on the functional limitations and cognitive problems, however, fewer caregivers reported having no health conditions than non-caregivers (see the first column of Table 4.14). When Whites, Blacks and Hispanics were considered separately, the distribution of the three indicators of physical resources differed between caregivers and non-caregivers. For Whites, fewer caregivers reported having no health conditions (30%) than non-caregivers (35%) (Table 4.17), whereas White caregivers and non-caregivers

did not differ in having functional limitations and cognitive problems. For Blacks, caregivers and non-caregivers did not differ in any of the three indicators of physical resources. However, for Hispanics, caregivers differed on each indicator of physical resources. Fewer Hispanic caregivers reported having no health conditions (28%) than non-caregivers (36%). Hispanic caregivers were more likely to have no functional limitations (78%) and no cognitive problems (100%) than non-caregivers (75% without functional limitations and 96% without cognitive problems), but these differences did not show substantive importance.

In the younger cohort, caregivers were more likely to have higher demands from the family networks on numbers of grandchildren, presence of proximate parents and a spouse with care needs (see the first column of Table 4.14). Caregivers continued to have more grandchildren than non-caregivers across three racial groups (Table 4.17). However, as for the presence of proximate parents and spouse with care needs, the relationships between caregivers and non-caregivers for both White and Blacks remained. No differences existed for Hispanic caregivers and non-caregivers. White caregivers were more likely to have parents living nearby (16%) and to have a spouse with care needs (59%) than non-caregivers (6% for the presence of proximate parents and 45% for the spouse with care needs). As for Black caregivers, 20% had parents living nearby and 41% had a spouse needing care, compared to 9% and 30% respectively for non-caregivers.

Caregivers in the younger cohort were more likely to attend religious services than non-caregivers, but social visits between caregivers and non-caregivers were no different (see the first column of Table 4.14). These two relationships remained when the three racial groups were considered separately (Table 4.17). Caregivers in all three racial

groups were more likely to attend religious services (74% for Whites, 92% for Blacks, and 89% for Hispanics) than non-caregivers (68% for Whites, 86% for Blacks, and 79% for Hispanics). No differences in social visits existed between caregivers and non-caregivers for White, Blacks and Hispanics.

In the younger cohort, caregivers were more likely to be female, married, and less educated (see the first column of Table 4.14). When White, Blacks and Hispanics were individually taken into consideration, some differences exist (Table 4.17). For example, White caregivers were more likely to be married (82%) than non-caregivers (71%), as were Black caregivers (56%) than non-caregivers (48%). However, marital status did not differ between caregivers and non-caregivers for Hispanics. In addition, White caregivers were less educated (13.1 years) than non-caregivers (13.5) (this was, however, not substantively different); whereas years of education between caregivers and non-caregivers were not found for Blacks and Hispanics.

(b) Older cohort (65+)

Among the older cohort, results from Table 4.18 showed that caregiving among three racial groups were similar in many aspects: financial resources (Social Security and pensions as well as household assets), functional limitations, cognitive problems, family networks (number of grandchildren, presence of proximate parents and a spouse with care needs), social visits, age, and marital status. Caregiving for Whites, Blacks and Hispanics were different on some other factors: health conditions, religious attendance, gender and years of education.

Two indicators of financial resources were distributed differently between caregivers and non-caregivers in the older cohort: whereas caregivers had greater Social

Security and pension income than non-caregivers, household assets between caregivers and non-caregivers did not differ (see the second column of Table 4.14). When Whites, Blacks and Hispanics were considered separately, caregivers continued to have more Social Security and pension income than non-caregivers across three racial groups (Table 4.18): Social Security and pension income of White, Black and Hispanic caregivers were $30,330, $21,861, and 18,136 respectively, compared to $26,766, $16,802, and $14,033 respectively for Whites, Black and Hispanic non-caregivers. No differences existed for household assets between caregivers and non-caregivers for all three racial groups.

Caregivers in the older cohort were healthier than non-caregivers on all three indicators of physical resources (see the second column of Table 4.14). Findings only applied to functional limitations and cognitive problems (but not health conditions) when three racial groups were considered separately (Table 4.18). Among White caregivers, 81% had no functional limitations, and 99% had no cognitive problems, compared to 70% and 95% without such health problems for non-caregivers. The percentages for Black caregivers without functional limitations and cognitive problems were 71% and 94%, compared to 60% and 86% for non-caregivers. These distributions were 75% and 97% for Hispanic caregivers and 63% and 87% for Hispanic non-caregivers. However, although White caregivers were statistically less likely to have health conditions (19%) than non-caregivers (16%), health conditions between caregivers and non-caregivers were no different for both Blacks and Hispanics.

Findings from the second column of Table 4.14 showed that older caregivers had greater demands in the family networks than non-caregivers. This observation remained when Whites, Blacks and Hispanics were examined individually (Table 4.18). For

example, Whites has 6.5 grandchildren compared to, 10.2 for Black and 9.7 for Hispanic caregivers. White, Black and Hispanic non-caregivers had 5.5, 7.3, and 8.2 grandchildren respectively. In addition, among White caregivers, 5% had parents living nearby and 68% had a spouse needing care, whereas the numbers for White non-caregivers were 1% and 43%. Percentages having proximate parents and having a spouse with care needs were 7% and 53% for Black caregivers, 2% and 28% for Black non-caregivers, 5% and 64% for Hispanic caregivers and 1% and 38% for Hispanic non-caregivers.

Religious attendance was found to be more likely among caregivers than non-caregivers in the older cohort (see the second column of Table 4.14). This finding was not sustained for Hispanic where caregivers and non-caregivers did not differ in their religious attendance (Table 4.18). However, White caregivers were more likely to attend religious services (78%) than non-caregivers (72%), and Black caregivers (90%) were more likely to attend than Black non-caregivers (84%). In terms of social visits, the second column of Table 4.14 did not show difference between caregivers and non-caregivers. This no-difference relationship applied to caregivers and non-caregivers for Whites, Black and Hispanic (Table 4.18).

In general, caregivers in the older cohort were younger, married, and better educated (see the second column of Table 4.14). In Table 4.18, results showed that caregivers were younger than non-caregivers among Whites, Blacks and Hispanics. No gender difference was found in the older cohort (see the second column of Table 4.14); however, when three racial groups were checked separately, Black caregivers were more likely to be female (64%) than non-caregivers (59%), even though no gender difference was found between caregivers and non-caregivers for both Whites and Hispanics. Table

4.18 also showed that caregivers were consistently more likely to be married than non-caregivers, years of education, nonetheless, did not show substantive differences. For example, statistically, White caregivers (12.8 years) and Black caregivers (10.9 years) were better educated than White non-caregivers (12.5 years) and Black non-caregivers (10.4 years), but they were not substantively different.

SUMMARY: The relationships between caregiving status and independent variables (personal resources, personal networks and socio-demographic characteristics) differ for people in the younger cohort and older cohort. For example, caregiving status and health was not strongly related, whereas caregiving was more likely to be associated with good health in the older cohort. When males and females were considered separately, not many relationships between caregiving status and independent variables were found for women in the younger cohort; such relationships were commonly found in the older cohort, especially for women. Looking at the association between caregiving status and independent variables, not many relationships were found in the younger cohort, especially for Blacks and Hispanics, whereas in the older cohort, relationships between caregiving status and independent variables commonly existed for Whites, but less for Blacks and Hispanics.

C. Relationships among three productive activities

Associations among involvement in employment, volunteering, and caregiving existed between two of these three productive activities; however, relationships between the amount of involvement in the three productive activities were less pronounced. The top part of the Table 4.19 showed the involvement in two of the three productive

activities, and the bottom part of the Table 4.19 showed the relationships of the amounts of older people's involvement in two activities.

Activities involvement

At the top part of the Table 4.19 (Activities involved), the first column showed that workers were more likely to volunteer than were non-workers (38% vs. 31%). But for non-workers, their weekly volunteer hours were distributed relatively evenly across four categories (28.7% of non-workers volunteered 1-50 hours per year and 25.7% of non-workers volunteered more than 200 hours per year). In contrast, among workers, 30% volunteered 1-50 hours per year but only 18% volunteered more than 200 hours per year. Workers were more likely to provide family caregiving (39%) than non-workers (31%), but when considering the amount of care that older people provided, workers were more likely to care for other family members for less than 20 hours per week (73%), compared to 63% non-workers who provided the same amount of care.

The second column under the activities involved in Table 4.19 showed the distribution between volunteering and the other two productive activities. Older volunteers were more likely to be employed (31%) than non-volunteers (25%) but less likely to work full time (64%) than non-volunteers (69%). Further, it was found that volunteers were more likely to care for other family members (36%) than non-volunteers (31%), but volunteers were more likely to provide less than 20 hours per week of care (71%) than non-volunteers (63%).

When examining the relationships between caregiving and the other two productive activities, caregivers were more likely to be employed (32%) than non-caregivers (25%) (the last column of the activities involved in Table 4.19). However,

caregivers and non-caregivers did not differ in whether they work full-time or part-time. Caregivers were more likely to volunteer (36%) than non-caregivers (31%), but the volunteer hours were similarly distributed between caregivers and non-caregivers.

Amount of involvement

The bottom half of the Table 4.19 illustrated the amount of involvement in two of the three productive activities. Although some relationships were statistically significant, relationships were less pronounced especially when looking at the substantive distribution. The first column under the amount of involvement (Table 4.19) showed that in general older people working full time were less likely to do more volunteer work: no volunteering and volunteering more than 101 hours/year were 64% and 16% for the full-time workers, whereas the numbers were 59% and 19% respectively for part-time workers. The distributions of caregiving between part-time and full-time workers were almost identical, and no statistical and substantive significance were found.

Relationships between the amount of volunteering and the other two productive activities, employment and caregiving, (the second column under the amount involvement (Table 4.19) are displayed. Seventy-two percent of those who volunteered more than 101 hours/year did not work and 66% of those who volunteered 1-100 hours/year did not work. For those who worked and volunteered, there were 18% of those who volunteered and 22% of those volunteering 1-100 hours/year who worked full-time. Those who volunteered (1-100 hours/year vs. 101+ hours/year) were similar in the amount of care they provided per week.

The third column of Table 4.19 showed the association of the amount of caregiving and the other two productive activities, employment and volunteering. It was

found that the majority of caregivers, regardless of the amount of care they offered, did not work (65% for those cared 1-20 hours/week and 75% for those cared 20+ hours/week). Caregivers who worked were more likely to work full-time (24% for 1-20 hours/week caregivers and 17% for 20+ hours/week caregivers). Most caregivers also did not volunteer: 61% of those provided care for 1-20 hours/week, and 69% for those who provided care for 20+ hours/week did not volunteer. As for the relationships between the amount of caregiving and amount of volunteering, the distributions were 20% volunteered 1-100 hours/year and 19% volunteered 101+ hours/year for caregivers who provided fewer weekly hours of care (1-20 hours/week); where as the percentages were 15% and 16% respectively for caregivers who provided care for more than 20 hours per week.

The above findings showed that older people who were involved in one productive activity were more likely to do another. In other words, the time older people spent on doing one productive activity did not seem to reduce their involvement in another one. Therefore, although mediation effects among the three productive activities were suspected in Chapter 3, the bi-variate findings in this section showed that testing for mediation effects was not necessary.

55-64 vs. 65+

55-64

Table 4.20 showed the bi-variate relationships between two of the three productive activities in the younger cohort (55-64, the top half of the table) and in the older cohort (65+, the bottom half of the table). In the younger cohort, workers were significantly more likely to volunteer (37%) than non-workers (33%). Although

statistically significant, workers and non-workers did not differ too much in the amount of their volunteering. For example, 55% of the workers and 51% of the non-workers volunteered less than 100 hours in the past 12 months. Workers were less likely to be caregivers (42%) than non-workers (47%), and for those providing care, 27% of workers provided care for more than 20 hours per week whereas 36% non-workers did so.

Volunteers in the younger cohort were more likely to be workers (56%) than non-volunteers (51%). Volunteers, however, were marginally less likely to work full-time (75%) than non-volunteers (79%). As for caregiving, volunteers were also more likely to be caregivers (48%) than non-volunteers (43%), but fewer volunteers provided care for more than 20 hours per week (27%) than non-volunteers (35%).

Caregivers were less likely to work (50%) than non-caregivers (55%), but caregivers and non-caregivers did not seem to differ in the amount of time they spent working. In terms of volunteering, caregivers were more likely to be volunteers (38%) than non-caregivers (33%), but when the amount of time was considered, caregive rs and non-caregivers did not seem to differ in how much they volunteered.

65+

Workers in the older cohort were more likely to volunteer (39%) than non-workers (31%), but volunteer hours were distributed more evenly among non-workers (e.g. 29% volunteered 1-50 hours in the past year and 26% contributed more than 200 hours in the past year). Workers were also more likely to be caregivers (32%) than non-workers (26%), but only 27% of workers provided care for more than 20 hours per week, compared to 38% non-workers did so.

In the older cohort, volunteers were also more likely to be employed (17%) than non-volunteers (12%), but these two groups did not differ in the amount that they worked. In addition, volunteers were also more likely to be caregivers (29%) than non-volunteers (25%), but more non-volunteers (39%) provided care for more than 20 hours per week than non-volunteers (31%). Caregivers in the older cohort were more likely to work (16%) than non-caregivers (13%), and to volunteer (35%) than non-caregivers (31%), However, when examining the amount that they worked and volunteered, no difference was found between caregivers and non-caregivers.

55-64, by gender

Table 4.21 presented the bi-variate relationships among three productive activities for males and females in the younger cohort. Female workers (38%) and male workers (37%) were more likely to volunteer than their counterparts (34% for female non-workers and 30% for male non-workers). It was also found that 44% of female workers volunteered more than 100 hours in the past year compared to 50% of female non-workers. However, the amount of volunteering did not differ between male workers and non-workers. As for the relationships between caregiving and employment, female workers (46%) were less likely to provide care than non-workers (51%). In addition, fewer female workers provided care for more than 20 hours per week (31%) than female non-workers (40%). As for males, workers did not differ from non-workers in providing care, but there were significantly fewer male workers who gave care for more than 20 hours per week (22%) than their non-worker counterparts (29%).

Female volunteers in the younger cohort were more likely to work (51%) and to give care (53%) than non-volunteers (46% were employed and 47% provided care). Not

surprisingly, fewer female volunteers worked full-time (66%) and provided care for more than 20 hours per week (21%) than non-volunteers (72% were full-time worker and 37% provided 20+ hours care per week). As for males in the younger cohort, although male volunteers were also more likely to work (64%) than non-volunteers (57%), they did not differ in working full-time or part-time. In addition, no difference was found between male volunteers and non-volunteers on involvement in caregiving activities; however, significantly fewer male volunteers were found to provide care for more than 20 hours per week (21%) than non-volunteers (27%).

As for caregiving for females and males in the younger cohort, female caregivers were less likely to work (46%) than non-caregivers (50%), but were more likely to volunteer (39%) than their counterparts (33%). However, when considering the amount of work or volunteering for these two groups, female caregivers and non-caregivers showed no difference on both measurements. Further, when looking at the relationships between male caregiving and the other two productive activities, male caregivers and non-caregivers did not differ in all four aspects: employed or not, part-time/full-time, volunteered or not, and amount volunteered.

65+, by gender

Table 4.22 showed the bi-variate distribution among three productive activities for males and females in the older cohort (65+). In the older cohort, female workers were more likely to volunteer (39%) and to give care (37%) than non-workers (32% volunteered and 26% caregave). When considering the amount of volunteering and caregiving, distribution of volunteering hours among female non-workers were more evenly than that among female workers. Female workers were also less likely to give care

more than 20 hours per week (29%) than non-workers (40%). However, male workers were more likely to volunteer (38%) than non-workers (29%), but these two groups did not differ in how much they volunteered. In addition, male workers and non-workers were similar in whether they provided care, but male workers were significantly less likely to provide care for fewer than 20 hours per week (25%) than non-workers (35%).

For the female volunteers in the older cohort, they were more likely to work (14%) and to provide care (31%) than non-volunteers (10% worked and 25% did not give care). However, female volunteers and non-volunteers did not differ in working full-time or part-time, whereas significantly fewer female volunteers provided care for more than 20 hours per week (34%) than non-volunteers (41%). Male volunteers were more likely to work (21%) than non-volunteers (15%), but no difference was found on whether they work part-time or full-time. Further, male volunteers and non-volunteers did not differ in care provision, but significantly fewer male volunteers provided care for more than 20 hours per week (27%) than non-volunteers (36%).

Female caregivers were not only more likely to work (16%) but also to volunteer (37%) than non-caregivers (10% worked and 31% volunteered). When considering the amount of work, female caregivers and non-caregivers did not differ in working full-time or part-time; however, female caregivers and non-caregivers differed in how much they volunteered. As for the relationships between caregiving and the other two productive activities, male caregivers and non-caregivers showed no differences on whether they worked, working full-time or part-time, whether they volunteered and how much they volunteered.

55-64, by race

Table 4.23 showed the distribution among three productive activities for Whites, Blacks and Hispanics in the younger cohort (55-64). In the younger cohort, White (38%), Black (45%) and Hispanic (25%) workers were consistently more likely to volunteer than non-workers (35% for Whites, 33% for Blacks and 18% for Hispanics). For the (1) amount of volunteering, (2) caregiving or not, and (3) amount of caregiving, no differences between workers and non-workers for both Blacks and Hispanics existed. Distributions of the volunteering hours were more evenly distributed among White non-workers than workers. Further, White workers were less likely to provide care (42%) or to provide care for more than 20 hours per week (23%), compared to 48% White non-workers gave care and 31% provided care for more than 20 hours per week.

Volunteers in all racial groups in the younger cohorts were more likely to work than non-volunteers (volunteer workers: 57% for Whites, 54% for Blacks, and 56% for Hispanics; non-volunteer workers: 54% for Whites, 41% for Blacks, and 45% for Hispanics). When considering working full-time or part-time, White volunteers were slightly less likely to work full-time (74%) than non-volunteers (78%), whereas volunteers and non-volunteers for both Blacks and Hispanics did not differ in whether they worked full-time or part-time. Volunteers for Whites (48%) and Hispanics (49%) were more likely to give care than non-volunteers (43% for White and 36% for Hispanics); this relationship, however, was not found between Black volunteers and non-volunteers. As for the care provision for more than 20 hours per week, only White volunteers (22%) were significantly less likely to provide such care than non-volunteers (30%), whereas differences did not exist between volunteers and non-volunteers for Blacks and Hispanics.

White caregivers were less likely to work (51%) but were more likely to volunteer (39%) than non-caregivers (58% worked and 34% volunteered). It was also found that Hispanic caregivers were more likely to volunteer (27%) than non-volunteers (18%). Other than the above significant differences, caregivers and non-caregivers in all three racial groups were similar in their involvement in employment, volunteering, and the amount of employment and volunteering.

65+, by race

Table 4.24 showed the bi-variate relationships among three productive activities for Whites, Blacks and Hispanics in the older cohort (65+). Workers were consistently more likely to volunteer than non-workers: the percentages of being employed between workers and non-workers were 39% and 33% for Whites, 42% and 27% for Blacks, and 23% and 13% for Hispanics. The significant variations of the volunteering hours between workers and non-workers were for Whites and Hispanics, but not for Blacks. Similar to the findings for volunteering (yes/no), workers across the three racial groups were also more likely to give care: the percentages of care provision between workers and non-workers were 30% and 25% for Whites, 39% and 31% for Blacks and 39% and 26% for Hispanics. However, only White workers (23%) and Black workers (39%) were less likely to provide care for more than 20 hours per week than non-caregivers (35% for Whites and 46% for Blacks); such relationships, however, were not found between Hispanic workers and non-workers.

For all three racial groups, volunteers (16% for Whites, 21% for Blacks, and 16% for Hispanics) were more likely to work than non-volunteers (13% for Whites, 12% for Blacks, and 9% for Hispanics), whereas working full-time or part-time consistently did

not differ between volunteers and non-volunteers among the three racial groups. As for caregiving, both White volunteers (28%) and Black volunteers (37%) were more likely to give care than non-volunteers (25% for Whites and 30% for Blacks). Hispanic volunteers and non-volunteers reacted similarly on this measure.

Caregivers in the older cohort were more likely to work than non-caregivers among all racial groups (caregiving workers: 16% for Whites, 17% for Blacks, and 14% for Hispanics; non-caregiving workers: 13% for Whites, 13% for Blacks, and 8% for Hispanics). Black caregivers were significantly less likely to work full-time (41%) than non-caregivers (54%), whereas no difference was found between caregivers and non-caregivers among Whites and Hispanics. As for volunteering, only White caregivers (37%) and Black caregivers (33%) showed a greater likelihood of volunteering than non-caregivers (33% for White and 27% for Blacks). Differences in volunteering hours between caregivers and non-caregivers were not found in any of the three racial groups.

SUMMARY: Relationships exist among three productive activities, and in general, older people who were active in one activity were more likely to be active in another. It was also worth noting that when gender was taken into consideration, the relationships between two of the three productive activities were similar to men and women, whereas men and women differed in the relationship between caregiving and the other two productive activities, employment and volunteering. When three racial groups were examined separately, relationships among three productive activities were strong for Whites (in both age cohorts), but such relationships were especially weak for Blacks and Hispanics in the younger cohort.

Descriptive findings indicated that personal resources, personal networks and socio-demographic characteristics differed with regard to older people's involvement in three productive activities. The relationships between involvements in more than one productive activity were weak. Results in the present chapter showed that (1) older people who did one productive activitiy were more likely to do the other two (which was in an opposite direction from the proposed hypothesis), and (2) the negative relationships between the involvement in two productive activities only happened when high hours of involvement occurred. Since the descriptive results did not support the hypotheses, involvement in the other two productive activities was not included in the regression models. In the next chapter, seven hypotheses will be tested, and results from logistic regression models are presented to elucidate the impact from personal resources, personal networks, and socio-demographics on employment, volunteering, and caregiving:

Employment

- *Hypothesis I:* Older people who have more financial resources will be less likely to stay in the labor force.
- *Hypothesis II:* Older people who have more physical resources (better health) will be more likely to stay in the labor force.

Volunteering

- *Hypothesis IV:* Older people who have more financial resources will be more likely to volunteer.
- *Hypothesis V:* Older people who have more physical resources (better health) will be more likely to volunteer.
- *Hypothesis VI:* Older people who have greater social networks will be more likely to volunteer.

Family Caregiving

- *Hypothesis VIIII:* Older people who have more physical resources (better health) will be more likely to care for other family members.
- *Hypothesis X:* Older people who have more demands in family networks will be more likely to care for other family members.

CHAPTER 5

Results – What factors influence their involvement in productive activities?

The Resource and Strategic Mobilization model (RSM) that was developed in Chapter 2 introduced possible factors that influence older Americans involvement in work, volunteer activities and family caregiving. These factors include personal resources (financial resources and physical resources), personal networks (family networks and social networks), and socio-demographic characteristics. Logistic regression models were presented to examine the independent effects of each predictor on the likelihood of being involved in each of the three productive activities. Older people in the younger cohort (55-64) and in the older cohort (65+) were considered separately. Odds ratios and the 95% confidence interval (CI) were reported for each model. The odds ratio of a predictor variable showed the odds that a productive activity will take place when the predictor variable changed its value. When an odds ratio was larger than 1.00, an increase in the value of the predictor variable raised the odds for an older person to be engaged in a productive activities (e.g. employment, volunteering or caregiving). An odds ratio less than 1.00 indicated that an increase in the value of a predictor variable is associated with decrease in the odds for the involvement in each productive activity. The confidence intervals were reported to show an interval around the point estimator (e.g. odds ratio) within two standard errors. This interval has 95 percent probability to include the true parameter value (Gujarati, 2001).

Three sets of tables are presented to show the influence of predictors on: first, each productive activity by age cohort (Tables 5.1-5.3)[5], second, each productive activity by age cohort for males and for females (Tables 5.4-5.6), and third, each productive activity by age cohort for Whites, Blacks and Hispanics (Tables 5.7-5.12).

The RSM model and productive activities

A. Employment

Two hypotheses were tested about the determinations of employment among older adults in the younger cohort (55-64) and in the older cohort (65+):

- *Hypothesis I:* Older people who have more financial resources will be less likely to stay in the labor force.
- *Hypothesis II:* Older people who have more physical resources (better health) will be more likely to stay in the labor force.

55-64

For the younger cohort, results from the first column of Table 5.1 showed supports for the *Hypotheses II*, but provide no support for *Hypothesis I*. It was hypothesized that older people who had more financial resources would be less likely to stay in the labor force, but the household asset for those in the younger cohort did not predict their labor force participation. Findings from the first column of Table 5.1 showed that people in the younger cohort who had more physical resources (better health) (*Hypothesis II*) would be more likely to stay in the labor force. The odds ratios for the three indicators of physical resources were 4.34, 1.59, and 3.52 respectively, indicating that the younger cohort without any functional limitations were 334% more likely to be employed than those with functional limitations. Those without health conditions and

[5] Statistics presented in this chapter were adjusted with sampling weights, clustering and sample stratification. For reference, un-weighted logistic regression results of the involvement in three productive activities by age can be found in Appendix A. Table A.1 is comparable to Table 5.1; Table A.2 and A.3 are comparable to Table 5.2 and 5.3 respectively.

cognitive problems were 59% and 252% more likely to be employed than those with such problems.

Social networks were not expected to have an impact on older adults' employment status, but findings showed that the frequencies of social visits were negatively associated with work. For example, when older people's social visit increased one time in the past month, the odds for him/her to be employed decreased 3%.

As for socio-demographic characteristics, the likelihood of females being employed was 34% less likely than for men. In addition, age and years of education both significantly predicted older people's employment status, but in different directions. The odds ratio for age was 0.86 which indicates that for each year of increased age, the odds for he/her to be employed decreased 14%; but for one more year of education an older person received, he/she was 9% more likely to be employed.

65+

Results from the second column of Table 5.1 showed supports for both hypotheses in the older cohort (65+). It was hypothesized that older people with more financial resources would be less likely to work (*Hypothesis I*), and findings showed that Social Security and pensions had a strong and negative effect. Due to the fact that Social Security and pensions was log transformed, the odds ratio could not be interpreted directly. To understand the results of the effect of Social Security and pension income on employment status, the unstandardized coefficient (b) associated with the log income should be transformed back to indicate its association with original income (b*log (1.x), where x indicates the percentage increase in the original income). Then, an odds ratio should be calculated by taking exponentiation of the post-transformation unstandardized

coefficient (b*log (1.x)). For example, the unstandardized coefficient (b) here was -0.134 (data not shown), and for an older adult with a 10% increase in Social Security and pension income, the odds of being employed were 0.99 times [exp (b*log (1.1)) = exp (-0.134*(0.095)) = 0.987] the odds of being employed for an older adult with 10% less income.

The next hypothesis stated that older people with more physical resources (better health) would be more likely to stay in the labor force (*Hypothesis II*). Findings from the second column of Table 5.1 showed that all three indicators of physical resources increased the likelihoods of being employed, and the odds ratios were 2.74, 1.31, and 2.01 respectively. For example, people in the older cohort without any functional limitation, any chronic health condition, or cognitive problems were more likely to be employed than those with such health problems; the likelihoods increased 174%, 31%, and 101% respectively.

Number of grandchildren and social events (religious attendance and social visits) were both not hypothesized to influence older people's employment status. Results for those in the older cohort, however, show unexpected predictions. The odds ratios for numbers of grandchildren, religious attendance, and social visits were 1.01, 1.05 and 0.98. These ratios showed that numbers of grandchildren and religious attendance both increased older people's chances to be employed, whereas social visits decreased such likelihood.

Indicators in socio-demographic characteristics showed that age, Hispanics, and females all decreased the likelihood for older people to stay in the labor force, but years of education increased it. For instance, for those in the older cohort, an increase of one

year in age decreased the odds of being employed by 11%, and when older people received one more year of education, the odds for them to be employed increased 8%.

B. Volunteering

Three hypotheses about effects on volunteering among older people were tested:

- *Hypothesis IV:* Older people who have more financial resources will be more likely to volunteer.
- *Hypothesis V:* Older people who have more physical resources (better health) will be more likely to volunteer.
- *Hypothesis VI:* Older people who have more social events will be more likely to volunteer.

55-64

The first column of Table 5.2 showed the influence of each predictor on the volunteering status for those in the younger cohort (55-64). These results supported all three hypotheses (*Hypothesis IV, Hypothesis V,* and *Hypothesis VI*).

According to *Hypothesis IV,* older people with more financial resources (e.g. household assets) were more likely to volunteer. The unstandardized coefficient (b) was 0.755 for household assets (data not shown). Findings from Table 5.2 showed that the odds of being involved in volunteer work for an older adult in the younger cohort with 10% more household assets were 1.07 times [exp(b*log(1.1)) = exp(0.755*(0.095)) = 1.07][6] the odds of being a volunteer with 10% less household assets.

Hypothesis V stated that older people with more physical resources (better health) would be more likely to volunteer, and the present findings showed that two out of three indicators (no functional limitations and no cognitive problems) supported the hypothesis. For example, when older people had no functional limitations or cognitive problems, they were 27% and 340% more likely than those with problems to volunteer. It was also

[6] To calculate the odds, the unstandardized coefficient was neeuseded. The unstandardized coefficient (b) for household assets was .755 (data not shown in the Table 26).

hypothesized that older people who had more social events would be more likely to volunteer (*Hypothesis VI*); both indicators of social networks in the present study showed strong support. The odds of volunteering increased 91% when older people were more involved in religious attendance and 2% when visiting/contacting friends for any additional time.

Among the older people in the younger cohort, those who were married and better educated were more likely to volunteer (the percentages of volunteering increased 26% for married people, and 26% for each additional year of education they received).

65+

Like the findings for the younger cohort, results from the second column of Table 5.2 (for the older cohort) also supported all three hypotheses (*Hypothesis IV, Hypothesis V,* and *Hypothesis VI*).

Hypothesis IV stated that older people with more financial resources were more likely to volunteer, and both Social Security and pension income as well as household assets were found to increase volunteering. The unstandardized coefficient (b) was 0.078 for Social Security and pensions and 0.511 for household assets (data not shown in Table 5.2). The odds of being involved in volunteer work for an older adult in the older cohort with 10% more Social security and pension income were 1.01 times [exp(b*log(1.1)) = exp(0.078*(0.095)) = 1.01][7] the odds of being a volunteer with 10% less Social Security and pensions. In addition, the odds of being involved in volunteer work for an older adult in the older cohort with 10% more household assets were 1.05 times [exp(b*log(1.1)) =

[7] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for Social Security and pensions was .078 (data not shown in the Table 26).

exp(0.511*(0.095)) = 1.05][8] the odds of being a volunteer with 10% less household assets.

Older people with more physical resources (better health) were hypothesized to be more likely to volunteer (*Hypothesis V*), and no functional limitations and no cognitive problems supported such hypothesis. For instance, older people had no functional limitations or cognitive problems were 78% and 116%, respectively, more likely than those with problems to volunteer. *Hypothesis VI* stated that older people who had more social events would be more likely to volunteer, and both indicators of social events in the present study showed strong support for it. The odds to volunteer increased 84% when older people were more involved in religious attendance and 1% for visiting/contacting friends for any additional time.

As for the socio-demographic characteristics for those in the older cohort, older people who were older, racial minorities were less likely to volunteer, while being female, married and better educated increased the likelihood of volunteering. For example, the percentages decreased 2% for each additional year in age, 15% for Blacks and 50% for Hispanics. For females, those that were married, or having an additional year of education, the likelihood of volunteering increased 14%, 18% and 18% respectively.

C. Caregiving

There were two hypotheses about the effects of family caregiving among older adults:

- *Hypothesis VIIII:* Older people who have more physical resources (better health) will be more likely to care for other family members.
- *Hypothesis X:* Older people who have more family demands will be more likely to care for other family members.

[8] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was .511 (data not shown in the Table 26).

55-64

For older people in the younger cohort, results from the first column of Table 5.3 showed support for the *Hypotheses X*, but provide no support for *Hypothesis VIIII*. It was hypothesized that older people who had more physical resources (better health) (*Hypothesis VIIII*) would be more likely to provide care to other family members. Findings from Table 5.3, however, showed that all three indicators of physical resources – no functional limitations, no health conditions, and no cognitive problems – were not related care provisions among the younger cohort.

Hypothesis X stated that older people who had more family demands would be more likely to care for other family members, and the findings showed that three indicators of family demands – number of grandchildren, the presence of proximate parents, and a spouse with care needs – all strongly supported the hypothesis. For instance, when the younger cohort had one additional grandchild, the chances for them to provide family care increased 10%. When they had parents living nearby or a needy spouse, these older people were more likely to be caregivers and the likelihoods increased 173% and 52% respectively.

Among the younger cohort, increasing age and being Hispanic were two factors that decreased the likelihood of providing care, while being female and married were factors that contributed to a greater likelihood of providing care. For example, when age increased by one year, caregiving decreased by 2% whereas the likelihood of cargiving increased by 35% if the person was Hispanic. In addition, females were 60% more likely to give care, and being married increase the likelihood of caregiving by 32%.

65+

In the older cohort, results (see second column of Table 5.3) showed support for both hypotheses: *Hypotheses Hypothesis VIIII,* and *X*. It was hypothesized that when older people had more physical resources (better health) (*Hypothesis VIIII*) they would be more likely to provide care to other family members. The present findings showed that two out of three indicators of physical resources (no functional limitations and no cognitive problems) supported the hypothesis. Older people without functional limitations or cognitive problems were 19% and 110% respectively more likely than those with problems to provide care to the other family members.

Hypothesis X stated that, older people who had more family demands would be more likely to care for other family members. Findings from Table 5.3 showed that three indicators of family demands (number of grandchildren, the presence of proximate parents, and a spouse with care needs) all strongly supported the hypothesis among the older cohort. For example, older people with one more grandchild increased the chances of them caregiving by 4%. When they had parents living nearby or a spouse who needed care, these older people were more likely to be caregivers, and the likelihood increased 209% and 84% respectively.

Among the older cohort, the increase of age decreased care provision by 6% for each additional year of age. Blacks, females, those who were married and those who were better educated were more likely to provide care to other family members. For example, Blacks were 42% more likely to give care; females were 37% more likely and those who were married were 76% more likely to give care. In addition, each additional year of education increased the likelihood of care provision by 3%.

SUMMARY: The RSM model was mostly supported by the findings: (1) for both age cohorts, more financial resources increased employment and volunteering, (2) better health increased involvement in all three productive activities, (3) social events increased volunteering, and (4) demands from the family networks increased caregiving. There were, however some unexpected and unpredicted findings. First, better health did not influence caregiving for people in the younger cohort, and second, involvement in activities in the social networks (religious attendance and social visits) influenced employment and caregiving.

The RSM model, productive activities, and gender

A. Employment and Gender

To understand how applicable the RSM model for both male and female elders, two hypotheses for employment were tested separately by gender:

- *Hypothesis I:* Older people who have more financial resources will be less likely to stay in the labor force.
- *Hypothesis II:* Older people who have more physical resources (better health) will be more likely to stay in the labor force.

55-64

For the older people in the younger cohort (55-64 years old), results from the first half of Table 5.4 showed that the model for males and females were not consistent in supporting the above two hypotheses. It was hypothesized that older people with more financial resources would be less likely to stay in the labor force (*Hypothesis I*), and this hypothesis was supported only in the female model (Odd Ratio = .35), whereas for the male model, finding showed that for a male elder with 10% increase in household assets, the odds of being employed were 1.05 times [exp(b*log(1.1)) = exp(0.501*(0.095)) =

1.05][9] the odds of being employed for an older adult with 10% fewer assets, although this effect was marginal.

As for the second hypothesis which stated that older people who had more physical resources (better health) would be more likely to stay in the labor force (*Hypothesis II*), results for both female and male models from (Table 5.4) supported this hypothesis. For example, females with no functional limitations were 314% more likely to work than those with the problems; the percentage was 379% for male. Women without cognitive problems were also significantly more likely to work (odds ratio = 13.50), but no effect was found for cognitive problems on employment for men.

Although not hypothesized, social visits negatively predicted employment status for both females and males. For each additional time in the past month that older people in the younger cohort contacted/visited friends, the chance of them to be employed significantly decreased 3% for females and 2% for males.

As for the effects of socio-demographic characteristics on employment, the increase in age decreased the chances for older people to work; an increase in one year in age decreased the chances of employment by 16% for males and 13% for females. Race did not seem to matter regarding employment in the female model. However, in the male model, Blacks were 34% less likely to work (odds ratio = 0.66), whereas Hispanics were 52% more likely to work (odds ratio = 1.52). In addition, females who were married were less likely to work (odds ratio = 0.73), but such an effect was unfound for males. Both males and females who were better educated were more likely to work (odds ratios were 1.16 for women and 1.04 for men).

[9] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was .501 (data not shown in the Table 28).

65+

Among males and females in the older cohort, results in the second half of the Table 5.4 showed that some hypotheses were supported while some were not. The first hypothesis of the RSM model was that older people with more financial resources were less likely to stay in the labor force (*Hypothesis I*). Findings showed that the increase of Social Security and pension income decreased the chances for employment for both males and females (the odds ratios were 0.91 for female and 0.85 for male). It was also found that the increase of another indicator of financial resources, the household assets, slightly decreased women's involvement in the labor force (odds ratio = 0.62); however, the increase of household assets for males increased their chances of employment. For example, for a male elder with a 10% increase in household assets, the odds of being employed were 1.05 times [exp (b*log (1.1)) = exp (0.543*(0.095)) = 1.05][10] the odds of being employed for an older adult with 10% fewer assets.

Hypothesis II stated that older people who had more physical resources (better health) would be more likely to stay in the labor force. Findings for the older cohort (65+) (Table 5.4) supported this hypothesis for both females and males. For example, females with no functional limitations were 224% more likely to be employed than those with such health problem; males with no functional limitations were 146% more likely to be employed than those with functional limitations. Women who had no cognitive problems were slightly more likely to work (odds ratio = 3.15) than those with the problems, but cognitive problems did not influence the employment status of men.

[10] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was .543 (data not shown in the Table 28).

For the older cohort, some variables that were not hypothesized showed effects on predicting employment for the female and/or male models. Social visits were not expected to influence employment, but results showed that more social visits to friends decreased the chances of working for both females (odds ratio = 0.98) and males (odds ratio = 0.99). In addition, in the male model for the older cohort, the increase of the number of grandchildren (odds ratio = 1.02) and religious attendance (odds ratio = 1.11) both raised the chances of men being employed.

Age and years of education for women and men both influenced their involvement in employment, but in opposite directions. A one year increase in age decreased the chances of employment by 12% for women and 10% for men. However, when older people received one additional year of education, their involvement in employment increased 11% for women and 6% for men. Hispanic women were 47% less likely to work than White women (odds ratio = 0.53), but Hispanic men did not differ in employment to their White counterparts.

B. Volunteering and Gender

Three hypotheses for volunteering were tested to elucidate the applicability of the RSM model for male and female elders:

- *Hypothesis IV:* Older people who have more financial resources will be more likely to volunteer.
- *Hypothesis V:* Older people who have more physical resources (better health) will be more likely to volunteer.
- *Hypothesis VI:* Older people who have more social events will be more likely to volunteer.

55-64

The first half of the Table 5.5 included both females and males for the younger cohort, and results showed that the three hypotheses were generally supported (*Hypothesis IV, Hypothesis V,* and *Hypothesis VI*) for both gender models.

It was hypothesized that older people with more financial resources were more likely to volunteer (*Hypothesis IV*). Table 5.5 showed that the increase in household assets for both females and males increased their chances of employment. For a female elder with a 10% increase in household assets, the odds of being employed were 1.05 times [exp (b*log (1.1)) = exp (0.469*(0.095)) = 1.05][11] the odds of being employed for an older adult with 10% fewer assets; such odds were 1.11 times [exp (b*log (1.1)) = exp (1.07*(0.095)) = 1.11][12] for males.

Better health was expected to increase older people's involvement in volunteering (*Hypothesis V*), only one indicator of the physical resources, no cognitive problems, increased volunteering for both females and males. Women without cognitive problems were 526% more likely to volunteer than women with cognitive problems, and the percentage was 223% for men.

Hypothesis VI stated that older people who had more social networks would be more likely to volunteer. The present findings showed that both indicators of social networks, religious attendance and social visits, positively predicted volunteering for both women and men. For females, greater involvement in religious attendance increased 96% of volunteering for women and an increase of one more social visit in the past month

[11] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was .469 (data not shown in the Table 29).
[12] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was 1.07 (data not shown in the Table 29).

increased 2% of volunteering. For men, religious attendance increased volunteering by 87% and an increase of one social visit per month increased volunteering by 2%.

Family networks were not hypothesized to influence older people's involvement in volunteering, but findings showed that having parents living nearby decreased volunteering for males by 32% (odds ratio = 0.68).

As for the socio-demographic characteristics, Hispanic women were significantly less likely to volunteer (odds ratio = 0.58) than White women. Years of education positively influenced volunteering for both women and men. For one additional year of education older people received, chances for women to volunteer increased 34% and 20% for men.

65+

Results from Table 5.5 for the older cohort (65+) showed supports to all three hypotheses (*Hypothesis IV, Hypothesis V,* and *Hypothesis VI*).

Hypothesis IV stated that older people who had more financial resources would be more likely to volunteer, and the present findings showed that both indicators of financial resources (Social Security and pensions as well as household assets) supported this hypothesis for females and males. For a female elder with a 10% increase in Social Security and pensions, the odds of volunteering were 1.01 times [exp (b*log (1.1)) = exp (0.107*(0.095)) = 1.01][13] the odds of volunteering for an older adult with 10% less income; such odds were also 1.01 times [exp (b*log (1.1)) = exp (0.060*(0.095)) = 1.01][14] for males. As for another indicator, household assets, for a female elder with a

[13] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was .107 (data not shown in the Table 29).
[14] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was .060 (data not shown in the Table 29).

10% increase in household assets, the odds of volunteering were 1.05 times [exp(b*log(1.1)) = exp(0.496*(0.095)) = 1.05][15] the odds of volunteering for an older adult with 10% fewer assets; such odds were also 1.05 times [exp(b*log(1.1)) = exp(0.544*(0.095)) = 1.05][16] for males.

The second hypothesis for volunteering stated that older people who had more physical resources (better health) would be more likely to volunteer (*Hypothesis V*). Findings from Table 5.5 showed that both females and males with no functional limitations and no cognitive problems supported this hypothesis. For instance, women in the older cohort without functional limitations were 86% more likely to volunteer than those with these problems. The same was true for cognitive problems: those without these problems were 117% more likely than those with problems to volunteer. These percentages were 66% and 105% for males.

Hypothesis VI stated that older people who had more social events would be more likely to volunteer. Findings (Table 5.5) showed support for this hypothesis for both females and males. For women in the older cohort, the odds of volunteering increased 85% when they were more involved in religious attendance and 2% when visiting/contacting friends for any additional time. The percentages increased for men as well; those that were more involved in religious activities for 82% more likely to volunteer and when more time was spent in visiting/contacting friends, males were 1% more likely to volunteer.

[15] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was .496 (data not shown in the Table 29).
[16] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was .544 (data not shown in the Table 29).

Most socio-demographics characteristics influenced volunteering in a similar way for both men and women. For example, years of education positively predicted volunteering for both women and men in the older cohort. Variation did occur in racial groups and within marital status. Black women were 24% less likely to volunteer than White women, while Black men and White men did not differ in volunteering. Compared to their White counterparts, Hispanics women and Hispanic men were both less likely to volunteer (54% less likely for women and 41% less likely for men). Married women and non-married women did not differ in volunteering, but married men were 68% more likely to volunteer. Findings (Table 5.5) indicated that for an additional year of education that older people received, women were 20% more likely to volunteer and men were 16% more likely.

C. Caregiving and Gender

Two hypotheses were proposed to elucidate the effects of family caregiving among older Americans:

- *Hypothesis VIIII:* Older people who have more physical resources (better health) will be more likely to care for other family members.
- *Hypothesis X:* Older people who have more demands in the family networks will be more likely to care for other family members.

55-64

For older females and males in the younger cohort (55-64), results from Table 5.6 showed supports to *Hypothesis X,* but *Hypothesis VIIII* was not confirmed. *Hypothesis VIIII* stated that older people who had more physical resources (better health) would be more likely to care for other family members. However, in both female model and male model, in general, three indicators of physical resources (no functional limitations, no

health conditions, and no cognitive problems) showed no influence on older people's caregiving.

It was hypothesized that older people with more family demands were more likely to care for other family members (*Hypothesis X*), and findings of Table 5.6 supported this hypothesis for both women and men in the younger cohort. When older women and older men in the younger cohort had an additional grandchild, these women and men were both 10% more likely to provide care. When an older woman had parents living nearby or had a spouse with care needs, she would be 153% and 33% more likely to give care than a woman without such demand; as for older men in the younger cohort; these percentages were 205% and 75% respectively.

Some variables were not expected to but showed influence on caregiving. For example, Attending religious services more often increased caregiving for women (odds ratio = 1.10), but no effect of religious attendance for men was found.

The effects from socio-demographic characteristics on caregiving reacted differently for males and females in the younger cohort. For the female model, the increase of age decreased women's caregiving for 3%, but aging did not influence male caregiving. Hispanic men were 48% less likely to provide care than White men, whereas compared to their White counterparts, no racial differences on caregiving were found for all Blacks and for Hispanic women. Married women and men were both more likely to give care (33% more likely for women and 43% more likely for men), but the effect was marginal for women. Education did not influence whether women give care, but the increase of years of education slightly decreased the chances (3%) for male to provide care.

65+

In the older cohort (65+), the two hypotheses (*Hypothesis VIIII,* and *Hypothesis X*) of caregiving were supported in both male and female models. It was hypothesized that older people with more physical resources (better health) were more likely to care for other family members (*Hypothesis VIIII*), and results from Table 5.6 showed that this hypothesis was generally supported for females in the older cohort. Women with no functional limitations and no cognitive problems were 27% and 117% more likely to provide care; whereas men without cognitive problems were 99% more likely to give care.

Hypothesis X stated that older people who had more demands in the family networks would be more likely to care for other family members, and Table 5.6 showed that in both female and male models, all three indicators of family networks (numbers of grandchildren, presence of proximate parents, and a spouse with care needs) supported this hypothesis. For example, an older woman was 4% more likely to provide care with an additional grandchild, and it was 3% more likely for an older man. In addition, women who had parents living nearby and had a needy spouse were 165% and 76% more likely to provide family caregiving, and for men, they were 292% and 87%, respectively, more likely to give care.

There are some variables that were not expected to influence caregiving, but findings from Table 5.6 showed some effects. For instance, financial resources were not hypothesized to predict caregiving, Social Security and pension income marginally decreased the odds of caregiving for women (odds ratio = 0.96). In addition, it was found that for a male elder with 10% increase in household assets, the odds of caregiving were

0.95 times [exp(b*log(1.1)) = exp(-0.492*(0.095)) = 0.95][17] the odds of caregiving for an older adult with 10% fewer assets. Greater involvement in social visits increased the odds for male to be caregivers by 1%.

As for the socio-demographic characteristics in the older cohort, compared to White females, Black females were 60% more likely to provide care, whereas the other racial minority groups did not differ from their White counterparts in caregiving. Married women and men were both more likely to give care, and it increased 46% for females and 185% for males. Education influenced caregiving for both women and men, and for an additional year of education older women received, the likelihood for her to provide care increased 3%.

SUMMARY: When females and males were considered in separate models, the RSM model was still supported in general, but gender differences were not found. Although males and females might react differently to work, volunteer and give care (e.g. Black women in the older cohort were more likely to volunteer and give care than black men), results showed that the influence of involvement in productive activities from personal resources and personal networks did not differ for men and women.

The RSM model, productive activities, and race

A. Employment and Race

To understand how applicable the RSM model was to different racial groups, two hypotheses for employment were tested separately for Whites, Blacks, and Hispanics:

- *Hypothesis I:* Older people who have more financial resources will be less likely to stay in the labor force.

[17] To calculate the odds, the unstandardized coefficient was needed. The unstandardized coefficient (b) for household assets was -.492 (data not shown in the Table 30).

- *Hypothesis II:* Older people who have more physical resources (better health) will be more likely to stay in the labor force.

55-64

It was hypothesized that older people with more financial resources were less likely to stay in the labor force (*Hypothesis I*), this hypothesis, however, was not supported in the younger cohort. Table 5.7 showed that Social Security and pensions for all Whites, Blacks and Hispanics did not influence older people's employment status for Whites, Blacks or Hispanics (Table 5.7).

Hypothesis II stated that older people who had more physical resources would be more likely to stay in the labor force, and results in the Table 5.7 showed some supports for this hypothesis. For Whites, having no functional limitations, no health conditions, and no cognitive problems all increased their involvement in the labor force (the percentages increased were 253%, 52% and 216% respectively) than those with problems. As for Blacks, although cognitive problems did not influence employment, older people with no functional limitations and no health conditions were 823% and 181% more likely to work. When Hispanics in the younger cohort had no functional limitation, they were 917% more likely to be employed than those with functional problems. The measurement of cognitive problems in the Hispanic model was omitted because very few older people in the younger cohort (55-64) had cognitive problems, and among them, only 12 Hispanics had cognitive problems (data not shown). These 12 Hispanics who had cognitive problems were all non-employed, and this perfect prediction condition[18] in the regression model resulted in the omitting of the variable, cognitive problems.

[18] Perfect prediction here means that only one value of a predictor variable (older people with cognitive problems) is associated with only one value of the response variable (older people who were not employed).

As for the socio-demographic characteristics, age consistently influenced older people's employment status for Whites, Blacks, and Hispanics. For one year increased in age, the odds of employment decreased 14%, 14% and 16% for Whites, Blacks and Hispanics respectively. Education also constantly influenced employment status for older people in all three racial groups. It was found that the odds for Whites, Blacks, and Hispanics to be in the labor force increased 10%, 10% and 5% respectively for each additional year of education they received. White women and Hispanic women were less likely to work (33% and 70% less) than their male counterparts, whereas Black women did not differ from men on employment.

65+

In the older cohort, Table 5.8 showed that the three hypotheses of employment were supported in some racial groups, but were not supported in others. *Hypothesis I* stated that older people with more financial resources were less likely to stay in the labor force and the findings of the Social Security and pensions supported this hypothesis for Whites, Blacks and Hispanics. For example, for a White elder with 10% increase in Social Security and pension income, the odds of being employed were 0.99 times [exp (b*log (1.1)) = exp (-0.152*(0.095)) = 0.95][19] the odds of being employed for an older adult with 10% less income. The odds for Blacks were 0.99 times [exp (b*log (1.1)) = exp (-0.081*(0.095)) = 0.95][20] and 0.99 times [exp (b*log (1.1)) = exp (-0.109*(0.095)) = 0.95][21] for Hispanics.

[19] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household incomes was -.152 (data not shown in the Table 32).
[20] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household incomes was -.081 (data not shown in the Table 32).
[21] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household incomes was -.109 (data not shown in the Table 32).

The second hypothesis of employment predicted that older people with more physical resources (better health) were more likely to stay in the labor force (*Hypothesis II*). Findings from Table 5.8 showed that this hypothesis was somewhat supported. For example, White elders with no functional limitation were 164% more likely to work, and these numbers were 215% for Blacks and 273% for Hispanics. No health conditions also increased the likelihoods for older people to work, but only for Whites (30%) and Blacks (60%). As for the third indicator of physical resources, cognitive problems, no influence was found for the three racial groups.

In the older cohort, White women were 35% and Hispanic women were 48% less likely to work then their male counterparts. Married Blacks were 46% less likely to be employed than non-married Blacks, while this similar finding did not apply to Whites and Hispanics. Education affects employment involvement only among Whites and Blacks. For an additional year of education that White elders received, their odds of being employed increased 7%, and for Blacks, the odds increased 12%.

B. Volunteering and Race

To better understand older people's involvement in volunteer work, three hypotheses were tested for Whites, Blacks, and Hispanics:

- *Hypothesis IV:* Older people who have more financial resources will be more likely to volunteer.
- *Hypothesis V:* Older people who have more physical resources (better health) will be more likely to volunteer.
- *Hypothesis VI:* Older people who have more social events will be more likely to volunteer.

55-64

For Whites, Blacks, and Hispanics in the younger cohort, the five hypotheses of volunteering were supported in some racial groups, but were not in others (Table 5.9).

The first hypothesis stated that older people with more financial resources were more likely to volunteer (*Hypothesis IV*). Findings from Table 5.9 showed that this hypothesis was supported in the White model and Black model but not in the Hispanic model. For a White elder with 10% increase in household assets, the odds of volunteering were 1.07 times [exp (b*log (1.1)) = exp (0.690*(0.095)) = 1.07][22] the odds of volunteering for an older adult with 10% less assets. The odds of volunteering were 1.47 times [exp (b*log (1.1)) = exp (4.069*(0.095)) = 1.47][23] for Blacks.

Hypothesis V stated that older people who had more physical resources (better health) would be more likely to volunteer. This hypothesis was generally not supported for Whites, Blacks, and Hispanics. Table 5.9 showed that without functional limitations did not influence volunteering for all three racial groups, and no health conditions increased 94% of volunteering for Hispanic elders only. Whites in the younger cohort without cognitive problems were 640% more likely to volunteer than Whites with such problem. Having cognitive problems had no influence on Blacks, and the measure of cognitive problem was again omitted due to the prefect prediction condition[24].

It was hypothesized that older people who had more social events would be more likely to volunteer (*Hypothesis VI*), results from Table 5.9 showed consistent supports to this hypothesis throughout Whites, Blacks, and Hispanics in the younger cohort. For one-level increase in religious attendance (e.g. from the level of once a week to the level of more than once a week), White elders were 87% more likely to volunteer, and the

[22] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was .690 (data not shown in the Table 33).
[23] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was 4.069 (data not shown in the Table 33).
[24] There were 12 Hispanics elders in the younger cohort with cognitive problems (data not shown) and all these 12 cases were not volunteering. This resulted in the omission of the variable from logistic regression due to the perfect prediction.

likelihoods increased 146% for Blacks and 122% for Hispanics. Social visits did not influence volunteering for Blacks, but for Whites and Hispanics, they were 2% and 4% more likely to volunteer when contacting/visiting their friends one additional time in the past month.

Majority of socio-demographic characteristics were not associated with volunteering for the three racial groups with few exceptions. For example, although marginally, married Whites were 27% more likely to volunteer than non-married White. White women were 14% more likely to volunteer than White men, whereas Hispanic women were 39% less likely to volunteer than Hispanic men. Education was the only measure that showed consistent influences on volunteering for all three racial groups. For an additional year of education they received, White elders were 29% more likely to volunteer, and were16% and 21% for Blacks and Hispanics respectively.

65+

Similar to the situation in the younger cohort, the three hypotheses of volunteering in the older cohort were not consistently supported for Whites, Blacks, and Hispanics (Table 5.10). For the first hypothesis stating that older people with more financial resources were more likely to volunteer (*Hypothesis IV*). This hypothesis was supported for Whites on both indicators of financial resources (Social Security and pensions as well as household assets), but was not confirmed by either indicator of financial resources for Hispanics. For a White elder, when he/she had 10% increase in Social Security and pension income, the odds of volunteering were 1.01 times [exp (b*log (1.1)) = exp (0.068*(0.095)) = 1.01][25] the odds of volunteering for an older adult

[25] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household income was .068 (data not shown in the Table 34).

with 10% less income. The odds of volunteering were 1.05 times [exp (b*log (1.1)) = exp (0.483*(0.095)) = 1.05][26] for the impact of household assets.

The second hypothesis stated that older people with more physical resources (better health) were more likely to volunteer (*Hypothesis V*). Findings from Table 5.10 showed that this hypothesis was not supported by any indicators of physical resources (no functional limitations, no health conditions, and no cognitive problems) for Black elders in the older cohort. Whites elders without functional limitations and cognitive problems were 79% and 154% more likely to volunteer than Whites else with such problems. As for Hispanics, elders without functional limitations were 141% more likely to volunteer than those with functional impairments, whereas the health conditions and cognitive conditions did not influence volunteering in this racial group.

It was hypothesized that older people who had more social networks would be more likely to volunteer (*Hypothesis VI*). Results showed that for those in the older cohort, attending religious services more often increased involvement in volunteering among Whites, Blacks and Hispanics. For one-level increase in religious attendance (e.g. from the level of once a week to the level of more than once a week), White elders were 80% more likely to volunteer, and the likelihoods increased 144% for Blacks and 190% for Hispanics (Table 5.10). As for another indicator of social networks, social visits, it only influenced volunteering in Whites: White elders were 1% more likely to volunteer when they visited/contacted friends an additional time in the past month.

Education was the only socio-demographic characteristic that influenced volunteering for all three racial groups. For an additional year of education that older

[26] To calculate the odds, the unstandardized coefficient was used. The unstandardized coefficient (b) for household assets was .483 (data not shown in the Table 34).

people received, Whites were 20% more likely volunteer, and the percentages were 12% and 11% for Blacks and Hispanics. Aging strongly influenced volunteering for Whites, only marginally for Blacks and no effect for Hispanics. White women and married Whites were 18% and 16% more likely to volunteer than their White counterparts; gender and marital status, however, did not influence volunteering in Blacks and Hispanics.

C. Caregiving and Race

To understand factors that influenced caregiving, two hypotheses were proposed for further testing:

- *Hypothesis VIIII:* Older people who have more physical resources (better health) will be more likely to care for other family members.
- *Hypothesis X:* Older people who have more family demands will be more likely to care for other family members.

55-64

For the younger cohort, Table 5.11 showed that the three hypotheses were supported in some racial models but were not in others. The first hypothesis stated that older people with more physical resources were more likely to care for other family members (*Hypothesis VIIII*). The three indicators of physical resources were not influential to caregiving in both Whites and Blacks. Health conditions showed some influences on caregiving: Hispanic elders with no health condition were 42% less likely to give care.

Hypothesis X stated that older people with more demands in family networks were more likely to care for other family members. Findings from Table 5.11 generally confirmed such hypothesis in different racial groups. For example, for an additional grandchild that older people had, Whites were 12% more likely to provide care, and the percentages were 5% for Blacks and 6% for Hispanics. When White elders had parents

living nearby, they were 217% more likely to give care than Whites without proximate parents, whereas this number was 98% more likely for Blacks elders. White elders with a spouse needing care were 49% more likely to provide care than Whites without a needy spouse. This number was 62% more likely for Hispanics.

Women were consistently more likely to be caregivers across all three racial groups: White women were 56%, Black women were 62% and Hispanics women were 91% more likely to give care than their male counterparts. For White elders, aging decreased caregiving (odds ratio = 0.98), but married Whites were 47% more likely to give care. Education was not influencing caregiving in Whites, Blacks, and Hispanics.

65+

In the older cohort, the two hypotheses of caregiving were still not fully supported. The first hypothesis stated that older people with more physical resources (better health) were more likely to care for other family members (*Hypothesis VIIII*). Findings in Table 5.12 showed that such hypothesis was fully supported only in White model. White elders without functional limitations, no health conditions, and no cognitive problems were 19%, 14%, and 114% more likely to provide care. However, Blacks with not functional limitation were 34% more likely to give care and Hispanics with no cognitive problems were 303% more likely to provide care.

It was hypothesized that older people with more family demands were more likely to care for other family members (*Hypothesis X*). Results from Table 5.12 showed consistent supports to such hypothesis across three racial groups. When older people had one additional grandchild, the likelihood for them to give care increased 4% for Whites, 3% for Blacks, and 4% for Hispanics. Whites and Blacks with parents living nearby were

232% and 118%, respectively, more likely to give care, but no relationship was found for Hispanics. Older people with a spouse needing care were also more likely to give care; the likelihoods of increasing caregiving were 77% for whites, 219% for Blacks and 122% for Hispanics.

As for the socio-demographic characteristics and caregiving in the older cohort, Table 5.12 showed that gender consistently influenced caregiving in all three racial groups. Women were more likely to provide care than men, and the odds for women to give care were 32% for Whites, 103% for Blacks, and 71% for Hispanics. Married Whites were 67% more likely to give care, and for an additional year of education older people received, Whites were 2% more likely to give care, whereas Hispanics were 7% more likely to do so.

SUMMARY: When Whites, Blacks and Hispanics were examined in separate models for both age cohorts, the RSM model worked better in the older cohort in general, and for White elders. For the 7 hypotheses that were tested in this chapter, present findings showed that most of these hypotheses were supported in the White models (for both younger cohort and older cohort). However, when applying the RSM model in the Black and Hispanic models, these hypotheses were weakly supported or not supported at all.

Case Examples

To better understand how likely an older person with specific characteristics was to work, volunteer, and give care, I used unstandardized coefficients of predictor variables to compute the odds of involvement in one of the three productive activities. The demonstration equation is:

Equation 1.

$$ln\left(\frac{Prob\,(PA)}{1-Prob(PA)}\right) = \alpha + \beta_1(Financial\ resources) + \beta_2(Physical\ resources) + \beta_3(Family\ networks) + \beta_4(Social\ networks) + \beta_5(Sociodemographics)$$

Which could be written as:

Equation 2.

$$\frac{Prob\,(PA)}{1-Prob(PA)} = \exp(\alpha + \beta_1(Financial\ resources) + \beta_2(Physical\ resources) + \beta_3(Family\ networks) + \beta_4(Social\ networks) + \beta_5(Sociodemographics))$$

PA = Productive Activity (Employment, Volunteering, or Caregiving)
α = Constant
β = unstandardized coefficients

Using coefficients from Table 5.13 and applying it into *Equation 2*, the odds of employment was 76% for a 60 year old[27] White female who was married, had 13 years of education[28], had median household assets, had no physical problems, had no demands from family networks, and was not involved in any event in social networks. The number of 76% resulted from following steps:

Step 1.

$$\frac{Prob\,(Employment)}{1-Prob(Employment)}$$

= exp[9.17 + (-0.23)(household assets) + (1.47)(no functional limitations) + (0.46)(no health conditions) + (1.26)(no cognitive problems) + (-0.02)(# grandchild) + (0.06)(parents nearby) + (-0.05)(spouse w/ needs) + (0.05)(religious services) + (-0.03)(social visits) + (-0.15)(age) + (-0.41)(female) + (-0.09)(married) + (0.09)(years of education)]

[27] Age 60 was the average age for the younger cohort in the present study.
[28] 13 years of education was the average years of education for the younger cohort in the present study.

= exp[9.17 + (-0.23*log(168000)) + (1.47*1) + (0.46*1) + (1.26*1) + (-0.02*0) + (0.06*0) + (-0.05*0) + (0.05*0) + (-0.03*0) + (-0.15*60) + (-0.41*1) + (-0.09*1) + (0.09*13)]

= exp(1.17)

= 3.22

Step 2.

$$\frac{Prob\,(Employment)}{1 - Prob(Employment)} = 3.22$$

Step 3. Therefore, *Prob(Employment)* = 0.76

Using the same method, the odds of volunteering was 14% for a 75 year old[29] White female who was married, had 12 years of education[30], had median household assets, had no physical problems, had no demands from family networks, and attended religious services once a week and visited friends 8 times per month[31].

Another example of predicting the odds of caregiving indicated that for a 75 year old White female who was married, had12 years of education, had median household assets, had no physical problems, had 6 grandchildren[32], had parents living nearby, had a spouse with care needs, and no involvement in any activities in social networks, the odds of being a caregiver was 88%.

The RSM model was developed to further understand the effects of personal resources, social networks, socio-demographic characteristics and the involvement in other productive activities on older people's participation in three productive activities: employment, volunteering, and family caregiving. The RSM model was in general

[29] Age 75 was the average age for the older cohort in the present study.
[30] 12 years of education was the average years of education for the older cohort in the present study.
[31] Social visits of 8 times per month were the average numbers that the older cohort visited friends in the present study.
[32] 5 grandchildren were the average numbers of grandchildren that the older cohort had in the present study.

supported, but several aspects were not confirmed. The next chapter will discuss the applicability (or non-applicability) of the RSM model, the limitation of the current study, the implementation of the RSM model and provide directions to future research.

CHAPTER 6

Discussion

Much of the empirical literature shows that reasons motivating older people to get involved in productive activities vary and are complicated (Bengtson & Schaie, 1999). While the majority of existing studies on the productive aging were not guided by theories, the present dissertation research proposed a new theoretical model, the Resource and Strategic Mobilization model (RSM), to systematically examine the influence from personal resources and personal networks on older Americans' involvement in three productive activities – employment, volunteering, and family caregiving. The RSM model has its base on two political participation models: the Resource Model and the Strategic Mobilization Model. If the present study only applies the Resource Model to productive aging, which predicts people with more personal resources are more likely to be productive, it cannot explain why so many others with greater personal resources do not do any of productive activity. The explanation from the other theoretical model, the Strategic Mobilization model, is helpful in understanding that many older people may not be active simply because they are not asked to do so.

It is essential to establish a new theoretical model to understand factors that contribute to some older people being productive and others aren't. Combining and modifying these two political participation models, the newly developed theoretical model (the RSM model) in the present study simultaneously considers factors such as

personal resources and personal networks that influence older Americans' involvement in employment, volunteering, and family caregiving as well as the other two productive activities and socio-demographic characteristics. The model is applied to two different age groups (55-64 vs. 65+) in order to capture the possible variations of resources and networks that may exist due to age.

Thus far, the dissertation has been organized by the three productive activities to understand factors that contribute to how each indicator of personal resources, personal networks, and socio-demographic characteristics influence older people's participation in employment, volunteering and caregiving. The discussion section, however, will be presented by age, gender, and race differences in older Americans' involvement in the three productive activities. This approach allows us to understand the complexity of the involvement in productive activities and provides richer and clearer information on how each predictor explains involvement in different productive activities when demographic differences are taken into account. In the end of the chapter, the contributions of applying the RSM model in predicting older people's engagement in productive activities will be discussed.

Overall

Older Americans who were 55 years and older were actively involved in employment, volunteering and caregiving. Many of them were involved in two productive activities or even all three activities.Those who worked were more likely to volunteer or to give care; in addition, this applied to volunteers and care givers who were also more likely to do the other two productive activities. These findings were consistent with what has been found: those who did one productive activity were more likely to do

another (Choi, 2003). The RSM model predicted that personal resources (financial resources and physical resources) and/ or personal networks (family networks and social networks) influenced older people's engagement in employment, volunteering, and caregiving. Among all factors considered, health status (or was called physical resources in the present study) was the only one that consistently predicted older people's involvement in employment, volunteering and family caregiving (older people with better health were more active) (McGarry, 2002; Choi, 2003; Caro & Bass, 1997). Other factors in the RSM model were showed to influence older people's involvement in three productive activities differently, especially when age, gender, or race were taken into account.

Age Differences

The RSM model predicted that financial resources would have a negative relationship to older people's employment status (*Hypothesis I*), but better health increased employment (*Hypothesis II*). Overall, findings of no age differences confirmed that a higher base of income decreased the chances for older people remaining in the labor force (e.g. Caputo, 2006) for all older people 55 and older. Health was also confirmed to be a precursor to employment (e.g. Miah, & WilCox-Gök, 2007), even when different age groups, gender, and racial groups were considered separately. The results of this dissertation analyses showed that financial resources as well as health influenced participation in employment for the older cohort. Although influences from health remained strong for the older cohort, such effects were weaker when financial resources were significant. As for the younger cohort, their good health increased employment as would be expected, but financial resources had no effects. This finding

might be related to the measurement of financial resources: household assets, which was the only indicator of financial resources for the younger cohort. First, the impact of assets on employment for older people was not frequently examined due to the difficulties of obtaining accurate data on household assets (Ruhm, 1990). Second, it was also possible that this result was a counteraction of the following two conditions: (1) older people between 55 and 64 who had lots of household assets would leave the labor force; however, (2) the other people in the same age group might continue to work because they might have some assets but not enough for retirement. Further exploration for the relationships between the level of household assets and employment among the younger cohort is needed.

The hypotheses related to volunteering in the RSM model (*Hypothesis IV ~ Hypothesis VIII*) were supported and consistent with existing literature on the influence of personal resources and personal networks on volunteering (e.g. Carr, 2009; Tang, 2006; Choi, 2003). The present study which examined these relationships for two different age groups and (55-64 and 65+) discovered that physical resources (better health) affected volunteering differently for the two age cohorts. For the younger cohort, better health was no longer a strong influence on whether people volunteer. Possible explanations were related to the complex relationships between several factors for those in the younger cohort. First, people in the younger cohort were usually in better health, therefore, there might not be enough variations of health status in this age group to explain their involvement in volunteer work. The second possibility was related to the social networks with which the younger cohort was affiliated. Compared to the older cohort, the younger cohort might have different social networks from educational and

work institutions, where volunteer opportunities were presented more often. In other words, non-family and non-religious social networks (which were not the same measures of social networks used in the present study) might be key factors that determined whether the younger cohort volunteered (Fischer, & Schaffer, 1993; Cnaan, 1991). (e.g. Morrow-Howell, 2003).

Gender Differences

The RSM model was still supported when females and males were considered separately, but gender differences were generally unfounded in the present study. Findings from the present study confirmed that women and men were involved differently in productive activities (Purcell, 2009; Orel, Ford, & Brock, 2004; Tang, 2006; Musick, Herzog, & House, 1999; Feld, et al., 2006; Fuller-Thomson & Minkler, 2001). However, the influences of the involvement in three productive activities from personal resources, personal networks and socio-demographics did not seem to differ between men and women (e.g. Morrow-Howell, 2003). This finding should not lead to a quick conclusion that factors influencing productive activities were all similar among men and women. Instead, it encourages further exploration of other factors that predict why males and females engage in employment, volunteering, and caregiving differently (or similarly). For example, caregiving was typically viewed as "women's job", and women also had better skills to cope with the caregiving role (Calasanti and Bowen, 2006). Future research on gender differences in care provision that takes into consideration perceptions (both from women themselves and from other people) of women's caregiving role should be encouraged.

The perceptions of women's caregiving role can be viewed as a type of psychological factor that the present study did not include. Discussions on such limitation and some future directions will be covered in the concluding chapter.

Racial Differences

Racial differences are explored minimally in the productive activity literature (Pruchno, 1999). In general, race is used as a control variable (Choi, 2003; Carr, 2009), therefore, very little is known about racial variations in productive activities. This study explored racial differences (Whites, Blacks, and Hispancis) between two age cohorts (55-64 vs. 65+) in all three productive activities, employment, volunteering and caregiving.

Compared to non-Whites and those in the younger cohort, the RSM model consistently provided a better explanation for participation in employment, volunteering, and caregiving for Whites and the older cohort. In particular, findings showed that personal resources and personal networks predicted White elders' participation in employment, volunteering and caregiving, but not much for Blacks and Hispanics. For example, physical resources (better health) were positively related to caregiving for White elders in the older cohort (65+), but showed no influence for those in the younger cohort (55-64). The influence of health on caregiving for Blacks and Hispanics in both the younger cohort and older cohort did not exist. This finding was puzzling as good health was consistently found to increase older people's involvement in all three productive activities (e.g. McGarry, 2002; Choi, 2003). There might be some variables other than "good health" that better explained why (or why not) older Blacks and Hispanics provided care to their family members, regardless of health status. Culture was a possible explanation. It was argued that compared to Whites, family caregiving was

strongly identified as a traditional value for Blacks, and informal caregiving was more common for the later racial group (Dilworth-Anderson, 2005). In other words, instead of health status, it was the culture of caring for other family members that motivated Black elders to provide care. Such argument could be applied to explain the similar situation for Hispanic elders.

The RSM model provided a good basis for understanding caregiving, as well as volunteering and employment for Whites, but other important variables that are vital to determine Black and Hispanic elders' engagement in productive activities were not included in the RSM model. Possible variables may be related to historic segregation, disparities in economic and health resources, as well as structural barriers related to discrimination (Morrow-Howell, 2010; McBride, 2007). Future research is encouraged to consider these factors in the empirical studies, both qualitatively and quantitatively. These findings are critical to strengthen the RSM model by including additional factors that may influence older people's involvement in productive activities among different racial groups.

Theoretical Contribution

The present study confirmed that many Americans remaine active in later life, and are engaged in more than one productive activity. Existing literature of productive aging found that various factors influenced older people's involvement in employment, volunteering and/or caregiving, but these studies were usually not developed with theoretical guidance. While productive aging is a newer area in gerontological research, theoretical models that are specifically used to explain older people's involvement in productive activities are rare. A theory is logically constructed to explain natural or social

phenomena, and findings from empirical studies without theoretical guidance would be weak. To help understand why older people were active in working, volunteering and caregiving, the present dissertation proposed a theoretical model, the RSM model.

The RSM model stands for the Resource and Strategic Mobilization model, and it originated from two theoretical models in political participation, the Resource model and the Strategic Mobilization model. In political science, these two models were used to understand factors that influence involvement in particular political activities. While political activities (e.g. political campaign) and productive activities (e.g. volunteering) are both viewed as civic engagement, the concepts from the resource model and the strategic mobilization model in political participation are applied to develop a new theoretical model of productive aging. Combining and modifying the measurements in the two political participation models, a new theoretical model, *the Resource and Strategic Mobilization model* (the RSM model) is designed to systematically examine the influence of personal resources, personal networks, and socio-demographic characteristics on older people's involvement in employment, volunteering, and family caregiving.

The few existing studies developed using theories typically apply theories/conceptual models from sociology or psychology on one particular productive activity (e.g. Caputo, 2006; Choi, 2003; Sands, et. al, 2005). These theories/conceptual models, however, are limited to predict the involvement in only one productive activity. Different from these theories/conceptual models, the RSM model in the present study brings in factors that are important (both empirically and theoretically) to influence older people's productive behaviors and examines the effects on each activity from all factors

(personal resources, personal networks, and socio-demographic characteristics). It is essential to note that although conceptual frameworks on productive aging have been introduced (e.g. Sherraden, Morrow-Howell, Hinterlong, & Rozario, 2001), the RSM model has been able to be empirically tested in the present study. The RSM model will also include variables that have been minimally explored or tested, such as culture, and it will be further discussed in the following chapter.

Seven hypotheses were identified using the RSM model. Findings supported the hypotheses that personal resources, personal networks, and the involvement in the other two productive activities influenced whether older people work, volunteer and give care. Different factors influenced older individuals' engagement in each productive activity. While older people who were 55 years and older were a diverse group, demographics of the older people were also considered to further explore whether the RSM model applied to different age, gender and racial groups. The RSM model provided better explanations for predicting older people's involvement in three productive activities for those who were in the older cohort (65+) and for Whites. These inconsistencies may result in the exclusion of some vital variables from the presented RSM model, and limitations will be raised in the following chapter.

CHAPTER 7

Conclusion

It has been widely ascertained that older people are actively involved in many productive activities, and the view of older people being dependent on society is outdated. Understanding who these productive older people are and factors that influence their activities not only helps to bring in positive images of aging, but is helpful to older people themselves. As Kaye points out, "[r]egardless of the degree of physical, functional, and emotional health, all persons, as they age, are challenged to sustain a high quality of life, set genuine goals for themselves, structure their daily lives meaningfully, and remain engaged in community and family life" (2005, p.9). Understanding influence of older people's personal resources and personal networks on their involvement in employment, volunteering and caregiving is an important start to minimize the challenges.

The present study proposes a new theoretical model, the Resource and Strategic Mobilization model (RSM), to explain the influence from personal resources, personal networks, and socio-demographic characteristics on older Americans' involvement in employment, volunteering and family caregiving. Although the RSM model is generally supported in the present study, it is also important to recognize other limitations. First, the model cannot capture the influence of cultural norms on productive aging. For example, when intergenerational caregiving is embedded in a particular culture, such as

in Confucianism, grandparents caring for grandchildren is assumed (Maehara, & Takemura, 2007). “Culture is a set of shared symbols, beliefs and customs that shapes individual and group behavior (Goodenough, 1999). It provides guidelines for speaking, doing, interpreting, and evaluating one’s actions and reactions in life” (Dilworth-Anderson, et al., 2005, p. S257). Although culture is a difficult to measure, its influence on human behavior is enormous. Empirical research taking culture variables into consideration is needed to further our understanding of whether older people from different cultural backgrounds react similarly/differently to productive activities, holding their personal resources and personal networks constant. Qualitative research is especially powerful and encouraged to measure such variables. In quantitative research, measurements like the Cultural Justifications for Caregiving Scale (CJCS; Dilworth-Anderson, et al., 2004) should be developed for individual productive activity.

Second, there are many kinds of work that require different skills in each productive activity (Gillespie, & King, 1985), but the variations in each activity are not captured in the RSM. For example, volunteers who are involved in the meal-on-wheels projects need to have driving ability; while older people who volunteer to train leader dogs for the blind might necessitate some dog-raising experience. The measurement of skills should be taken into consideration in future research to better capture the influence of different professional or personal skills on the type of productive activities in which older people are involved.

Third, the connections between personal networks (including family networks and social networks) and participation are assumed and cannot be further examined in RSM. An older person who has a large personal network but doesn’t have close relationships

with his or her personal networks might not participate in productive activities. On the contrary, an older person who has small personal networks but has close connections to his or her personal networks might be more likely to be involved in productive activities. In other words, personal attachment to other members in the social networks might be more influential in determining whether a person participates in productive activities. This model, however, assumes that everyone has the same relationships to the members in his or her personal networks; therefore, the size of the personal network is the single factor that mobilizes the elderly to participate in productive activities. Unfortunately, the RSM cannot capture the dynamics between the elderly and strength of their social networks.

Fourth, Psychological factors that can be used to distinguish the different motivations for older people to work, volunteer and care for other people are not available in the RSM model. The two political participation models on which the RSM model is based argue that political interests are critical preconditions for more participation in political activities (e.g. Putnam, 2000), especially in voter turnout (Brady, Verba, & Schlozman, 1995). One of the questions that is used in measuring Americans' political interests is "how interested are you in national politics and national affairs?" When applying such factors to research on productive aging, comparable variables like "interests in productive activities" should be constructed. It has been documented that many older people are involved in productive activities not because they have to be, but because they wanted to (e.g. McNaught, et. al., 1991; Okun, 1994). For example, related psychological factors for employment include whether older people are looking for jobs when they are not working or whether older people want to continue to work (both part-

time and full-time) after they retired. Unfortunately, this present study is not able to include variables indicating whether older adults are interested in productive activities. There are two reasons for the approach of this study. The first reason is that reliable measurements of such concepts (individuals' self-interests in general productive activities and specific productive activities) are still under investigation, and cannot be obtained at this moment. Second, proxy variables that might be used to measure individual interests in productive activities are not available in the HRS data.

Fifth, one of the bases for the RSM model is the Resource model in political participation. The original resource model used to explain Americans' political participation is comprised of three variables, money, time, and skills. However, while appropriate measures of free time and skills that can be used to predict people's involvement in productive activities are not available in the HRS data, only money is included in the RSM model. Time availability is expected to be one of the important factors that influence whether older people engage in employment, volunteer or caregiving. "No member of society has either more or less time available than that contained in a 24-hour day, and the set of activities capable of being measured, described, and analyzed must add up to a fixed total number of minutes, hours, or days" (Juster, 1985, p.24); therefore, the free time a person has will be highly correlated with whether older person work, volunteer and/or care for other family members. The free time that older people have may influence whether they are involved in productive activities (such as employment, volunteering or caregiving). Older people's involvement in any of the three productive activities is in turn more likely to influence their involvement in doing the other two productive activities. Therefore, including a measurement of the leisure/free

time that older people have would allow us to identify whether interactions exist among the three productive activities in which older people participate. In future data collection, questions like "in 24 hours a day, in general, how many hours do you spend in working, volunteering, and caring for other family members?" should be included. Skills are also excluded from the RSM model, because measurements of skills, which are comparable to the measurements in Brady and his colleagues' original Resource Model, are not available in the Health and Retirement Study (HRS).

Many limitations of the RSM model mentioned above result in the dataset that does not contain appropriate measurements of predictors. Future research should take vital variables into account and a new dataset focusing on productive aging is needed. I will propose a conceptual framework (Figure 7.1) for future research and/or data collection. Building on the existing RSM model, at least three key measurements should be included: time availability, psychological factors, and culture variables.

The conceptual framework that I proposed for future research includes the factors that the RSM model has considered (such as personal resources, personal networks, and the socio-demographic characteristics), plus time availability, psychological measures. This new conceptual framework will benefit future research in productive aging in at least two aspects. First, researchers doing empirical work on productive aging should consider (as much as possible) the factors that are proposed as well as the dynamics among these factors in understanding the productive activities that older people involved. Second, this conceptual framework could serve as a base when a new data/survey on productive aging is developed. By taking into consideration all the factors and the

interactions among them, this framework would better capture the dynamics of productive activities in the later lives for older Americans.

Policy and Practice Implications

With the rising proportion of aging people in US society, Americans worry about the increased burden from this aging trend. Their worries may be lessened, as long as a consensus of productive aging can be built and a stereotype of dependent aging can be dismissed. In addition, understanding factors that influence the participation in productive activities of the elderly is helpful for social work practitioners to know where to begin their interventions. Knowing the reasons why older Americans participate in different productive activities will enhance our knowledge of their decision-making processes in choosing certain productive activities. By understanding the mechanisms behind the elderly's involvement in a specific productive activity, policy makers will be able to design policies with incentives to encourage civic engagement among the elderly. This not only will increase the contribution the elderly make to society but also will benefit the elderly themselves by promoting feelings of being needed. In the long run, increasing their participation in productive activities will change the stereotype that the elderly are not productive and are a burden to society. Three major policy and practice implications are discussed below.

First, personal networks are found to increase the involvement in productive activities. Older people with greater family networks are more likely to provide care and those with greater social networks are more likely to volunteer. Policymakers should design policies which encourage older people to expand or to strengthen their personal

networks. Although direct policies to expand social networks might be hard to obtain, policymakers could start with policies that aim to create workshops for older people in local communities (e.g. computer lessens, and pottery lessens), in which older people will make more friends living in a similar geographical areas. This is not to force older people to be active if they do not want to; it is to provide information to older people that other alternatives of retirement life are possible. Practitioners, such as social workers and/or community organizers, are vital in recruiting, training and supporting older people who are also potential volunteers. Practitioners are encouraged to not only contact older people and provide them information of community activities, but also encourage older people to talk to their friends and neighbors about these community activities.

Second, more financial resources increase the chances for older people to be volunteers. For instance, household assets is a strong predictor to older people's volunteering. Policies encouraging savings would be able to foster greater involvement in voluntary work, and programs applying the concept of Individual Development Accounts (IDAs) would be a good start. IDAs is an asset-based policy which is designed by Michael Sherraden to fight poverty by accumulation personal assets. The original concept of the IDAs is that governments (federal or state government) and/or local business match the IDAs deposits made by people who are qualified and involved in such programs, and the savings can only be used for certain purposes, such as home ownership, and education (Sherraden, 1991). Applying such a concept to encourage savings among older people, policy makers can design policies that provide incentives (such as matching fund) for older people to save. In addition, to assure the utilization of the connection between assets and volunteering, the influences from personal networks

on volunteering can be applied. Specifically, policy makers could design IDAs programs that are connected with or are operated in local communities in which older people live in.

The third policy and practice implication is related to the finding that better health strongly increases older people's involvement in all three productive activities. Good health not only serves as a precursor of being active, but also allows older people to have a better quality of life. To prolong good health, policies should emphasize preventative health care. For example, the new bill that was signed into law by President Obama on March 23rd, 2010 (the Patient Protection and Affordable Care Act, Public Law #: 111-148) aimed to lower health costs, expand health care choices and enhance the quality of health care for all Americans (Compilation of Patient Protection and Affordable Care Act, 2010). The preventative care is mentioned in this bill but is not promoted. Besides the focuses of the current new health care reform bill, future policies should pay equal attention to prolong the healthiness of the older people. When working with older people, social workers and other practitioners are encouraged to do needs-assessment more carefully. While older people are more likely to work, volunteer and give care if they are healthy, helping older people to have their health needs met will in turn increase their involvement in productive activities.

The model proposed in this study, the *Resource and Strategic Mobilization model* (RSM), has a special contribution to the social work research targeting productive aging. The RSM model provides a theoretical framework to understand factors that influence older people's engagement in productive activities, and also allows social work researchers to systematically test the dynamics among the three productive activities. In

addition, productive aging research, a newly developed area in gerontological social work, is in need of a new model that helps to examine why older people become involved in productive activities. The RSM model in the present study has taken a first step in understanding how personal resources and personal networks influence the involvement in different productive activities. Future research should not only consider factors that are introduced in the present research, but also include other vital variables that are not able to be measured here. Below is the conceptual framework to understand productive aging based on the RSM model.

Figure 7.1. Conceptual Framework of productive aging based on the RSM model

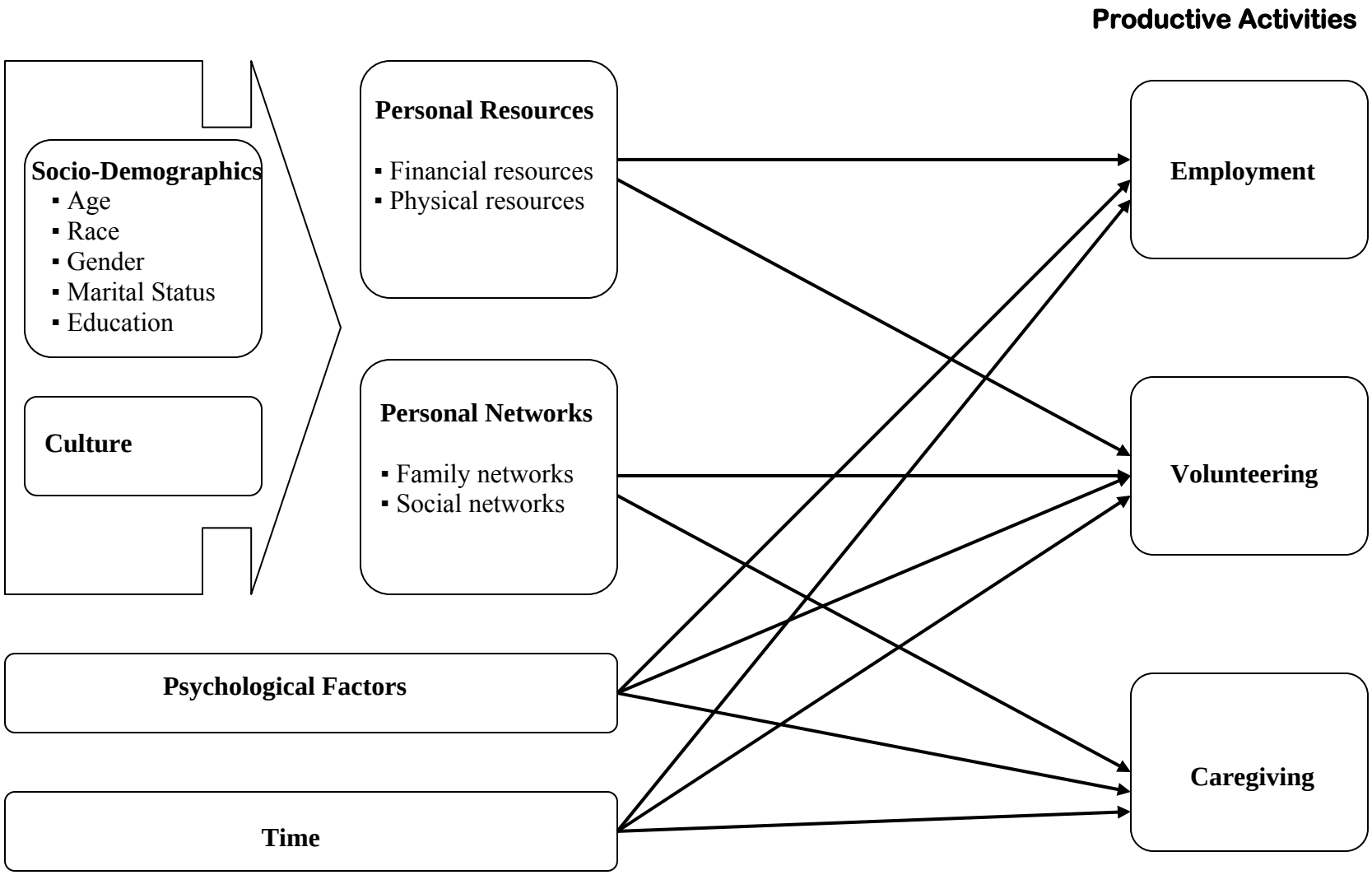


Table 4.1. Descriptive statistics of all variables (N=15,312)

Variables	Total	55-64 (n=5,223)	65+ (n=10,089)	*p*
Dependent Variables				
Employment	27.0%	53%	14%	***
Part-time (1-34 hrs/wk)	33.0%	23%	54%	
Full-time (35+ hrs/wk)	67.0%	77%	46%	
Volunteer	32.9%	35%	32%	***
1-50 hours/year (1)	28.9%	30%	28%	
51-100 hours/year (2)	21.7%	23%	21%	
101-200 hours/year (3)	26.8%	26%	27%	
200+ hours/year (4)	22.6%	21%	24%	
Caregiving	32.8%	45%	27%	***
1-20 hrs/wk	65.8%	68%	64%	
21+ hrs/wk	34.2%	32%	36%	
Independent Variables				
Financial Resources				
Social Security + Pension (0~2,183,400)	20,456(49,963)	10,745 (22,360)	25,485(58,787)	***
Household Asset (-1,999,200~77,200,000)^	440,118(1,540,880)	451,441(1,870,528)	434,256(1,338,777)	
Physical Resources				
No Functional Limitations	75.2%	84%	71%	***
No Health Conditions	21.9%	31%	17%	***
No Cognitive Problems	96.1%	99%	94%	***

Family Demands				
Potential demands				
Number of Grandchildren (0~80)	5.7(6.0)	4.6(5.1)	6.3(6.3)	***
Proximate Parents Present	5.4%	11%	2%	***
Current demands				
Spouse w/ Assistance Needs	47.7%	48%	47%	
Social Events				
Religious Attendance				***
Not at all (1)	24.5%	25%	24%	
1 or more times/year (2)	20.3%	23%	19%	
2-3 times/month (3)	11.8%	14%	11%	
Once/week (4)	27.2%	22%	30%	
More than once/week (5)	16.2%	16%	16%	
Social Visits (0~30)	7.6(10.2)	6.3(9.1)	8.2(10.7)	***
Sociodemographics				
Age (55~107)	69.5(9.2)	59.9(3.0)	74.4(7.3)	***
Race				***
White	77.6%	75%	79%	
Black	13.6%	15%	13%	
Hispanics	8.8%	10%	8%	
Female	57.4%	59%	57%	*
Married	63.2%	71%	59%	***
Years of Education (0~17	12.2(3.3)	12.8(3.1)	11.9(3.4)	***

^ Median Household assets for all older people 55+:$174,000; for 55-64:$168,000; for 65+:$178,000

Table 4.3. Descriptive statistics of all variables, by individual productive activities (N=15,312)

	Employment			Volunteer			Caregiving		
	No (n=11177)	Yes (n=4135)		No (n=10273)	Yes (n=5039)		No (n=10295)	Yes (n=5017)	
Financial Resources									
ln(Household Income)	27,749	17,567	***	23,382	28,296	***	24,715	25,583	
ln(Household Asset)	416,966	502,698	**	356,814	609,949	***	434,333	451,988	
Physical Resources									
No functional limitations	69%	92%	***	70%	86%	***	72%	81%	***
No health conditions	17%	35%	***	20%	25%	***	21%	23%	**
No cognitive problems	95%	99%	***	95%	99%	***	95%	99%	***
Family Demands									
# of grandkids	6.1	4.7	***	5.9	5.4	***	5.3	6.5	***
Proximate parents presented	4%	9%	***	5%	6%		3%	11%	***
Spouse need assistance	48%	48%		46%	51%	***	41%	60%	***
Social Events									
Religious attendance	75%	77%	***	68%	91%	***	74%	79%	***
Social visits	8.3	5.6	***	7.2	8.4	***	7.8	7.2	**
Sociodemographics									
Age	71.9	62.8	***	70.1	68.3	***	71.1	66.2	***
Race			+			***			***
White	77%	79%		75%	82%		79%	76%	
Black	14%	13%		14%	13%		13%	16%	
Hispanics	9%	8%		11%	5%		9%	9%	
Female	60%	51%	***	57%	59%	**	56%	61%	***
Married	60%	71%	***	60%	71%	***	57%	77%	***
Years of education	11.9	13.2	***	11.6	13.4	***	12.1	12.4	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests.
$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.4. Descriptive statistics of all variables and Employment, by age (N=15,312)

	55-64 (n=5,223)			65+ (n=10,089)		
	No Work (n=2,473)	Work (n=2,750)	*p*	No Work (n=8,704)	Work (n=1,385)	*p*
Financial Resources						
Social Security + Pension	15,505	6,465	***	26,107	21,570	**
Household Asset	430,792	470,011		413,038	567,599	***
Physical Resources						
No functional limitations	73%	93%	***	67%	91%	***
No health conditions	22%	40%	***	16%	26%	***
No cognitive problems	99%	100%	***	94%	99%	***
Family Demands						
Potential demands						
# of grandkids	5.3	3.9	***	6.3	6.1	
Proximate parents present	10%	12%	+	2%	4%	***
Current demands						
Spouse need assistance	50%	47%		47%	50%	+
Social Events						
Religious attendance	73%	76%	***	75%	80%	***
Social visits	7.7	5.1	***	8.5	6.6	***
Sociodemographics						
Age	60.7	59.2	***	75.2	69.9	***
Race			***			**
White	71%	78%		79%	81%	
Black	17%	13%		13%	13%	
Hispanics	11%	9%		9%	6%	
Female	65%	53%	***	58%	47%	***
Married	69%	73%	**	58%	67%	***
Years of education	12.2	13.3	***	11.8	12.8	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests.
$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.5. Bi-Variate descriptive statistics of all variables and Employment, by gender for younger cohort (N=5,223)

	Female (n=3,063)			Male (n=2,160)		
	No Work (n=1,596)	Work (n=1,467)	*p*	No Work (n=877)	Work (n=1,283)	*p*
Financial Resources						
Social Security + Pension	15,490	8,233	***	15,533	4,442	***
Household Asset	468,383	376,287		362,380	577,176	*
Physical Resources						
No functional limitations	73%	93%	***	74%	94%	***
No health conditions	18%	33%	***	27%	48%	***
No cognitive problems	99%	100%	**	98%	100%	**
Family Demands						
Potential demands						
# of grandkids	5.7	4.2	***	4.5	3.6	***
Proximate parents present	11%	13%	+	9%	11%	
Current demands						
Spouse need assistance	46%	40%	***	54%	55%	
Social Events						
Religious attendance	77%	80%	+	66%	72%	*
Social visits	7.5	4.6	***	7.9	5.7	***
Sociodemographics						
Age	60.5	59.1	***	60.9	59.3	***
Race			***			***
White	70%	76%		75%	79%	
Black	18%	16%		16%	10%	
Hispanics	13%	8%		9%	10%	
Female				-	-	
Married	67%	64%		75%	84%	***
Years of education	12.1	13.2	***	12.5	13.3	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests.
+$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 4.6. Descriptive statistics of all variables and Employment, by gender for older cohort (N= 10,089)

	Female (n=5,723)			Male (n=4,366)		
	No Work (n=5,077)	Work (n=646)	*p*	No Work (n=3,627)	Work (n=739)	*p*
Financial Resources						
Social Security + Pension	23,246	20,187		30,113	22,778	**
Household Asset	363,888	417,284		481,837	698,997	**
Physical Resources						
No functional limitations	66%	92%	***	70%	90%	***
No health conditions	13%	23%	***	19%	28%	***
No cognitive problems	94%	99%	***	94%	98%	***
Family Demands						
Potential demands						
# of grandkids	6.4	6.2		6.1	6.0	
Proximate parents present	2%	4%	**	2%	5%	***
Current demands						
Spouse need assistance	36%	36%		62%	62%	
Social Events						
Religious attendance	78%	84%	**	71%	77%	**
Social visits	8.3	6.2	***	8.7	7.0	***
Sociodemographics						
Age	75.5	69.7	***	74.7	70.2	***
Race			**			+
White	78%	78%		80%	83%	
Black	13%	16%		12%	10%	
Hispanics	9%	5%		8%	7%	
Female						
Married	45%	50%	*	76%	82%	***
Years of education	11.7	12.7	***	11.9	12.9	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.7. Descriptive statistics of all variables and Employment, by race for younger cohort (N=5,223)

	White (n=3,904)			Black (n=793)			Hispanic (n=526)		
	No Work (n=1,766)	Work (n=2,138)	*p*	No Work (n=430)	Work (n=363)	*p*	No Work (n=277)	Work (n=249)	*p*
Financial Resources									
Social Security + Pension	17,599	6,622	***	11,820	7,769	**	7,873	3,214	***
Household Asset	541,303	549,457		162,188	194,371		143,197	189,695	+
Physical Resources									
No functional limitations	79%	94%	***	58%	92%	***	62%	92%	***
No health conditions	24%	40%	***	13%	38%	***	21%	47%	***
No cognitive problems	99%	100%	**	98%	99%		96%	100%	***
Family Demands									
Potential demands									
# of grandkids	4.7	3.5	***	6.6	5.4	*	7.1	5.3	**
Proximate parents present	10%	11%	+	13%	15%		9%	13%	
Current demands									
Spouse need assistance	54%	49%	**	34%	37%		40%	43%	
Social Events									
Religious attendance	69%	73%	***	85%	93%	**	84%	82%	
Social visits	7.8	5.2	***	7.8	5.0	***	6.2	4.8	+
Sociodemographics									
Age	60.7	59.3	***	60.6	59.2	***	60.4	59.1	***
Race									
White	-	-	-	-	-	-	-	-	-
Black	-	-	-	-	-	-	-	-	-
Hispanics	-	-	-	-	-	-	-	-	-
Female	63%	52%	***	67%	63%		72%	46%	***
Married	76%	76%		47%	58%	**	64%	71%	+
Years of education	12.9	13.8	***	12.0	12.7	***	8.7	10.1	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. +$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 4.8. Descriptive statistics of all variables and Employment, by race for older cohort (N=10,089)

	White (n=7,983)			Black (n=1,284)			Hispanic (n=822)		
	No Work (n=6,863)	Work (n=1,120)	*p*	No Work (n=1,101)	Work (n=183)	*p*	No Work (n=740)	Work (n=82)	*p*
Financial Resources									
Social Security + Pension	28,539	22,457	**	18,354	18,773		15,091	15,693	
Household Asset	494,700	668,044	***	92,190	122,046	*	133,050	190,017	+
Physical Resources									
No functional limitations	69%	91%	***	59%	91%	***	63%	91%	***
No health conditions	15%	25%	***	14%	26%	***	20%	37%	***
No cognitive problems	95%	99%	***	87%	98%	***	89%	98%	*
Family Demands									
Potential demands									
# of grandkids	5.7	5.8		8.3	7.3		8.7	7.8	
Proximate parents present	2%	4%	***	3%	7%	**	2%	6%	**
Current demands									
Spouse need assistance	49%	52%		34%	43%	*	46%	40%	
Social Events									
Religious attendance	73%	78%	***	85%	91%	*	78%	80%	
Social visits	8.6	6.6	***	8.5	6.8	*	7.4	7.0	
Sociodemographics									
Age	75.5	70.3	***	74.0	68.8	***	73.8	68.1	***
Race									
White	-	-	-	-	-	-	-	-	-
Black	-	-	-	-	-	-	-	-	-
Hispanics	-	-	-	-	-	-	-	-	-
Female	58%	45%	***	61%	58%		59%	41%	**
Married	60%	70%	***	42%	50%	*	57%	72%	**
Years of education	12.5	13.2	***	10.3	12.0	***	7.5	8.9	*

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.9. Descriptive statistics of all variables and Volunteer, by age (N=15,312)

	55-64 (n=5,223)			65+ (n=10,089)		
	No Volunteer (n=3,385)	Volunteer (n=1,838)	*p*	No Volunteer (n=6,888)	Volunteer (n=3,201)	*p*
Financial Resources						
Social Security + Pension	9,609	12,838	***	23,559	29,628	***
Household Asset	352,744	633,210	***	358,815	596,593	***
Physical Resources						
No functional limitations	81%	89%	***	64%	84%	***
No health conditions	30%	35%	***	16%	20%	***
No cognitive problems	99%	100%	**	92%	99%	***
Family Demands						
Potential demands						
# of grandkids	4.9	4.0	***	6.3	6.1	
Proximate parents present	11%	11%		2%	3%	
Current demands						
Spouse need assistance	47%	50%	+	45%	52%	***
Social Events						
Religious attendance	67%	89%	***	68%	92%	***
Social visits	6.0	6.9	***	7.7	9.2	***
Sociodemographics						
Age	60.0	59.8	*	75.0	73.2	***
Race			***			***
White	73%	77%		76%	85%	
Black	14%	16%		13%	12%	
Hispanics	12%	6%		10%	4%	
Female	58%	60%	+	56%	58%	*
Married	68%	77%	***	55%	67%	***
Years of education	12.2	13.9	***	11.4	13.1	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests.
$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.10. Descriptive statistics of all variables and Volunteering, by gender for younger cohort (N=5,223)

	Female (n=3,063)			Male (n=2,160)		
	No Volunteering (n=1,955)	Volunteering (n=1,108)	*p*	No Volunteering (n=1,430)	Volunteering (n=730)	*p*
Financial Resources						
Social Security + Pension	10,522	14,648	***	8,361	10,090	+
Household Asset	355,491	545,639	**	348,988	766,126	***
Physical Resources						
No functional limitations	79%	88%	***	83%	91%	***
No health conditions	24%	28%	*	37%	45%	***
No cognitive problems	99%	100%	*	99%	100%	+
Family Demands						
Potential demands						
# of grandkids	5.3	4.4	***	4.2	3.5	***
Proximate parents present	12%	13%		10%	9%	
Current demands						
Spouse need assistance	43%	44%		53%	58%	*
Social Events						
Religious attendance	71%	91%	***	62%	85%	***
Social visits	5.8	6.7	*	6.3	7.3	*
Sociodemographics						
Age	59.9	59.8		60.1	59.8	*
Race			***			***
White	71%	76%		76%	79%	
Black	16%	18%		12%	14%	
Hispanics	13%	6%		11%	6%	
Female						
Married	62%	71%	***	77%	86%	***
Years of education	12.0	13.8	***	12.4	14.1	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.11. Descriptive statistics of all variables and Volunteering, by gender for older cohort (N=10,089)

	Female (n=5,723)			Male (n=4,366)		
	No Volunteering (n=3,856)	Volunteering (n=1,867)	*p*	No Volunteering (n=3,032)	Volunteering (n=1,334)	*p*
Financial Resources						
Social Security + Pension	20,528	27,801	***	27,414	32,184	*
Household Asset	308,438	496,887	***	422,882	736,136	***
Physical Resources						
No functional limitations	61%	83%	***	68%	86%	***
No health conditions	13%	17%	**	19%	24%	***
No cognitive problems	92%	99%	***	93%	98%	***
Family Demands						
Potential demands						
# of grandkids	6.5	6.2	+	6.1	6.1	
Proximate parents present	2%	3%		2%	2%	
Current demands						
Spouse need assistance	34%	42%	***	60%	67%	***
Social Events						
Religious attendance	72%	93%	***	64%	90%	***
Social visits	7.4	9.4	***	8.2	8.9	*
Sociodemographics						
Age	75.6	73.4	***	74.3	73.0	***
Race			***			***
White	75%	84%		78%	86%	
Black	14%	12%		12%	10%	
Hispanics	11%	3%		10%	4%	
Female						
Married	42%	53%	***	73%	86%	***
Years of education	11.3	13.0	***	11.5	13.4	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.12. Descriptive statistics of all variables and Volunteering, by race for younger cohort (N=5,223)

	White (n=3,904)			Black (n=793)			Hispanic (n=526)		
	No Volunteer (n=2,482)	Volunteer (n=1,422)	*p*	No Volunteer (n=490)	Volunteer (n=303)	*p*	No Volunteer (n=413)	Volunteer (n=113)	*p*
Financial Resources									
Social Security + Pension	10,687	13,159	**	7,731	13,580	***	5,358	6,799	
Household Asset	435,366	738,468	***	103,342	295,908	***	152,109	213,084	+
Physical Resources									
No functional limitations	85%	91%	***	69%	81%	***	73%	87%	**
No health conditions	31%	36%	**	21%	30%	**	32%	36%	
No cognitive problems	99%	100%	*	98%	99%		97%	100%	+
Family Demands									
Potential demands									
# of grandkids	4.2	3.7	***	6.5	5.4	*	6.8	4.3	***
Proximate parents present	11%	10%		14%	15%		11%	12%	
Current demands									
Spouse need assistance	51%	53%		33%	40%	*	43%	36%	
Social Events									
Religious attendance	62%	87%	***	83%	98%	***	80%	95%	***
Social visits	6.0	7.0	**	6.8	6.1		4.8	8.2	***
Sociodemographics									
Age	60.0	59.8		60.1	59.7		59.9	59.4	
Race									
White	-	-	-	-	-		-	-	-
Black	-	-	-	-	-		-	-	-
Hispanics	-	-	-	-	-		-	-	-
Female	56%	59%	*	65%	66%		60%	58%	
Married	73%	82%	***	48%	59%	**	68%	68%	
Years of education	12.8	14.3	***	11.7	13.2	***	8.7	11.8	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.13. Descriptive statistics of all variables and Volunteering, by race for older cohort (N=10,089)

	White (n=7,983)			Black (n=1,284)			Hispanic (n=822)		
	No Volunteer (n=5,268)	Volunteer (n=2,715)	*p*	No Volunteer (n=915)	Volunteer (n=369)	*p*	No Volunteer (n=705)	Volunteer (n=117)	*p*
Financial Resources									
Social Security + Pension	26,095	30,773	**	16,103	24,143	***	14,289	20,346	***
Household Asset	437,690	676,827	***	79,907	137,454	***	131,419	182,805	+
Physical Resources									
No functional limitations	66%	85%	***	57%	79%	***	63%	84%	***
No health conditions	15%	20%	***	14%	19%	*	21%	27%	
No cognitive problems	94%	99%	***	85%	96%	***	89%	96%	*
Family Demands									
Potential demands									
# of grandkids	5.6	5.9	**	8.7	7.0	**	8.6	8.4	
Proximate parents present	2%	2%		3%	5%		2%	1%	
Current demands									
Spouse need assistance	47%	54%	***	34%	38%		44%	50%	
Social Events									
Religious attendance	65%	91%	***	81%	97%	***	75%	98%	***
Social visits	7.8	9.3	***	8.1	8.6		7.0	9.8	**
Sociodemographics									
Age	75.4	73.5	***	74.0	71.5	***	73.5	71.3	**
Race									
White	-	-	-	-	-	-	-	-	-
Black	-	-	-	-	-	-	-	-	-
Hispanics	-	-	-	-	-	-	-	-	-
Female	55%	58%	*	59%	63%		58%	56%	
Married	58%	69%	***	40%	51%	***	57%	70%	**
Years of education	12.1	13.4	***	10.0	11.9	***	7.3	9.6	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.14. Descriptive statistics of all variables and Caregiving, by Age (N=15,312)

	55-64 (n=5,223)			65+ (n=10,089)		
	No Caregiving (n=2,899)	Caregiving (n=2,324)	*p*	No Caregiving (n=7,396)	Caregiving (n=2,693)	*p*
Financial Resources						
Social Security + Pension	10,597	10,929		24,558	28,030	**
Household Asset	437,975	468,239		432,906	437,964	
Physical Resources						
No functional limitations	84%	83%		68%	79%	***
No health conditions	34%	28%	***	16%	19%	**
No cognitive problems	99%	99%		93%	98%	***
Family Demands						
Potential demands						
# of grandkids	3.8	5.5	***	5.9	7.3	***
Proximate parents present	7%	17%	***	1%	6%	***
Current demands						
Spouse need assistance	42%	55%	***	41%	65%	***
Social Events						
Religious attendance	72%	78%	***	74%	80%	***
Social visits	6.4	6.2		8.3	8.0	
Sociodemographics						
Age	59.9	59.9		75.4	71.7	***
Race			**			***
White	75%	75%		80%	76%	
Black	14%	16%		12%	15%	
Hispanics	11%	9%		8%	8%	
Female	54%	64%	***	56%	57%	
Married	67%	77%	***	53%	76%	***
Years of education	12.9	12.7	*	11.8	12.1	***

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests.
+$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 4.15. Descriptive statistics of all variables and Caregiving, by gender for younger cohort (N=5,223)

	Female (n=3,063)			Male (n=2,160)		
	No Caregiving (n=1,568)	Caregiving (n=1,495)	*p*	No Caregiving (n=1,331)	Caregiving (n=829)	*p*
Financial Resources						
Social Security + Pension	11,875	12,160		9,092	8,710	
Household Asset	425,272	423,229		452,940	549,411	
Physical Resources						
No functional limitations	82%	83%		86%	85%	
No health conditions	27%	24%		42%	36%	**
No cognitive problems	99%	100%		99%	99%	
Family Demands						
Potential demands						
# of grandkids	4.2	5.8	***	3.3	5.0	***
Proximate parents present	7%	17%	***	6%	16%	***
Current demands						
Spouse need assistance	38%	50%	***	48%	65%	***
Social Events						
Religious attendance	75%	82%	***	68%	72%	
Social visits	6.3	5.9		6.5	6.8	
Sociodemographics						
Age	59.9	59.8		59.9	60.1	
Race						*
White	73%	73%		77%	78%	
Black	16%	18%		12%	14%	
Hispanics	11%	9%		11%	8%	
Female						
Married	60%	71%	***	76%	86%	***
Years of education	12.7	12.6		13.1	12.8	*

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.16. Descriptive statistics of all variables and Caregiving, by gender for older cohort (N=10,089)

	Female (n=5,723)			Male (n=4,366)		
	No Caregiving (n=4,178)	Caregiving (n=1,545)	*p*	No Caregiving (n=3,218)	Caregiving (n=1,148)	*p*
Financial Resources						
Social Security + Pension	21,913	25,573	*	27,992	31,335	
Household Asset	353,316	414,804	*	536,240	469,132	
Physical Resources						
No functional limitations	65%	78%	***	72%	79%	***
No health conditions	14%	16%	+	20%	22%	+
No cognitive problems	93%	98%	***	94%	97%	***
Family Demands						
Potential demands						
# of grandkids	6.0	7.5	***	5.7	7.1	***
Proximate parents present	1%	6%	***	1%	6%	***
Current demands						
Spouse need assistance	30%	54%	***	56%	79%	***
Social Events						
Religious attendance	77%	84%	***	71%	76%	***
Social visits	8.3	7.4	**	8.3	8.8	
Sociodemographics						
Age	76.1	71.3	***	74.5	72.2	***
Race			***			
White	80%	74%		81%	79%	
Black	12%	17%		11%	13%	
Hispanics	8%	9%		8%	8%	
Female						
Married	38%	65%	***	71%	92%	***
Years of education	11.7	12.1	***	12.0	12.2	*

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.17. Descriptive statistics of all variables and Caregiving, by race for younger cohort (N=5,223)

	White (n=3,904)			Black (n=793)			Hispanic (n=526)		
	No Caregiving (n=2,164)	Caregiving (n=1,740)	*p*	No Caregiving (n=414)	Caregiving (n=379)	*p*	No Caregiving (n=321)	Caregiving (n=205)	*p*
Financial Resources									
Social Security + Pension	11,520	11,672		9,914	10,022		5,260	6,305	
Household Asset	534,125	560,249		143,049	213,920		170,156	157,462	
Physical Resources									
No functional limitations	87%	87%		75%	72%		75%	78%	***
No health conditions	35%	30%	***	25%	23%		36%	28%	+
No cognitive problems	100%	100%		99%	98%		96%	100%	**
Family Demands									
Potential demands									
# of grandkids	3.3	4.9	***	5.3	6.9	**	5.4	7.7	***
Proximate parents present	6%	16%	***	9%	20%	***	10%	12%	
Current demands									
Spouse need assistance	45%	59%	***	30%	41%	***	39%	45%	
Social Events									
Religious attendance	68%	74%	***	86%	92%	*	79%	89%	*
Social visits	6.5	6.3		6.7	6.3		5.3	5.8	
Sociodemographics									
Age	59.9	59.9		60.0	59.9		59.8	59.7	
Race									
White	-	-	-	-	-	-	-	-	-
Black	-	-	-	-	-	-	-	-	-
Hispanics	-	-	-	-	-	-	-	-	-
Female	53%	63%	***	61%	70%	**	55%	68%	**
Married	71%	82%	***	48%	56%	*	66%	70%	
Years of education	13.5	13.1	***	12.2	12.3		9.4	9.3	

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.18. Descriptive statistics of all variables and Caregiving, by race for older cohort (N=10,089)

	White (n=7,983)			Black (n=1,284)			Hispanic (n=822)		
	No Caregiving (n=5,923)	Caregiving (n=2,060)	*p*	No Caregiving (n=875)	Caregiving (n=409)	*p*	No Caregiving (n=598)	Caregiving (n=224)	*p*
Financial Resources									
Social Security + Pension	26,766	30,330	*	16,802	21,861	***	14,033	18,136	**
Household Asset	512,809	536,876		93,859	101,979		137,588	141,790	
Physical Resources									
No functional limitations	70%	81%	***	60%	71%	***	63%	73%	**
No health conditions	16%	19%	***	16%	14%		22%	20%	
No cognitive problems	95%	99%	***	86%	94%	***	87%	97%	***
Family Demands									
Potential demands									
# of grandkids	5.5	6.5	***	7.3	10.2	***	8.2	9.7	*
Proximate parents present	1%	5%	***	2%	7%	***	1%	5%	***
Current demands									
Spouse need assistance	43%	68%	***	28%	53%	***	38%	64%	***
Social Events									
Religious attendance	72%	78%	***	84%	90%	**	78%	80%	
Social visits	8.4	8.0		8.1	8.5		7.5	7.1	
Sociodemographics									
Age	75.7	72.0	***	74.3	71.0	***	74.3	70.4	***
Race									
White	-	-	-	-	-	-	-	-	-
Black	-	-	-	-	-	-	-	-	-
Hispanics	-	-	-	-	-	-	-	-	-
Female	56%	56%		59%	64%	+	56%	60%	
Married	55%	80%	***	36%	58%	***	52%	77%	***
Years of education	12.5	12.8	***	10.4	10.9	*	7.4	8.1	

Note: Entries are means unless noted otherwise. Means and percentages are based on raw data. Significance tests for means are based on *t*-tests and for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.19. Descriptive statistics between employment, volunteering, and caregiving (N=15,312)

	Activities Involved								
	Employment			Volunteer			Caregiving		
	No (n=11,177)	Yes (n=4,135)	*p*	No (n=10,273)	Yes (n=5,039)	*p*	No (n=10,295)	Yes (n=5,017)	*p*
Employed	0%	100%		25%	31%	***	25%	32%	***
Part-time (1-34 hrs/wk)	-	33%		31%	36%	**	33%	33%	
Full-time (35+ hrs/wk)	-	67%		69%	64%		67%	68%	
Volunteered	31%	38%	***	0%	100%		31%	36%	***
1-50 hours/year (1)	28%	30%	***	-	29%		30%	27%	
51-100 hours/year (2)	20%	25%		-	22%		21%	23%	
101-200 hours/year (3)	27%	27%		-	27%		26%	28%	
200+ hours/year (4)	25%	18%		-	23%		23%	23%	
Caregave	31%	39%	***	31%	36%	***	0%	100%	
1-20 hrs/wk	63%	73%	***	63%	71%	***	-	66%	
20+ hrs/wk	37%	27%		37%	29%		-	34%	

	Amount of Involvement								
	Employment			Volunteer			Caregiving		
	Part-time (n=1,366)	Full-time (n=2,769)	*p*	1-100 hrs (n=2,550)	100+ hrs (n=2,489)	*p*	1-20 hrs (n=3,303)	20+ hrs (n=1,714)	*p*
Employed									
None (0 hrs/wk)	-	-		66%	72%	***	65%	75%	***
Part-time (1-34 hrs/wk)	-	-		12%	11%		12%	8%	
Full-time (35+ hrs/wk)	-	-		22%	18%		24%	17%	
Volunteered									
0 hours/year	59%	64%	**	-	-		61%	69%	***
1-100 hours/year	22%	21%		-	-		20%	15%	
101+ hours/year	19%	16%		-	-		19%	16%	
Caregave									
0 hours/week	62%	61%		65%	63%		-	-	
1-20 hours/week	28%	28%		25%	26%		-	-	
20+ hours/week	10%	11%		10%	11%		-	-	

Note: Significance tests for percentages are based on Chi-Square tests. $+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.20. Descriptive statistics between employment, volunteering, and caregiving, by Age (N=15,312)

	55-64								
	Employment			Volunteer			Caregiving		
	No (n=2,473)	Yes (n=2,750)	*p*	No (n=3,385)	Yes (n=1,838)	*p*	No (n=2,899)	Yes (n=2,324)	*p*
Employed	0%	100%		51%	56%	***	55%	50%	***
Part-time (1-34 hrs/wk)	-	23%		21%	25%	*	22%	24%	
Full-time (35+ hrs/wk)	-	77%		79%	75%		78%	76%	
Volunteered	33%	37%	***	0%	100%		33%	38%	***
1-50 hours/year (1)	30%	31%	**	-	30%		32%	28%	
51-100 hours/year (2)	21%	24%		-	23%		22%	23%	
101-200 hours/year (3)	24%	27%		-	26%		25%	27%	
200+ hours/year (4)	25%	18%		-	21%		20%	22%	
Caregave	47%	42%	***	43%	48%	***	0%	100%	
1-20 hrs/wk	64%	73%	***	65%	73%	***	-	68%	
20+ hrs/wk	36%	27%		35%	27%		-	32%	
	65+								
	Employment			Volunteer			Caregiving		
	No (n=8,704)	Yes (n=1,385)	*p*	No (n=6,888)	Yes (n=3,201)	*p*	No (n=7,396)	Yes (n=2,693)	*p*
Employed	0%	100%		12%	17%	***	13%	16%	***
Part-time (1-34 hrs/wk)	-	54%		52%	56%		53%	55%	
Full-time (35+ hrs/wk)	-	46%		48%	44%		47%	45%	
Volunteered	31%	39%	***	0%	100%		31%	35%	***
1-50 hours/year (1)	28%	30%	***	-	28%		29%	26%	
51-100 hours/year (2)	20%	26%		-	21%		21%	22%	
101-200 hours/year (3)	28%	25%		-	27%		27%	28%	
200+ hours/year (4)	25%	19%		-	24%		24%	24%	
Caregave	26%	32%	***	25%	29%	***	0%	100%	
1-20 hrs/wk	62%	73%	***	61%	69%	***	-	64%	
20+ hrs/wk	38%	27%		39%	31%		-	36%	

Note: Percentages are based on raw data, and the significance tests are based on Chi-Square tests.
$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.21. Descriptive statistics between employment, volunteering, and caregiving, by gender for younger cohort (N=5,223)

	Female, 55-64 (n=3,063)								
	Employment			Volunteer			Caregiving		
	No (n=1,596)	Yes (n=1,467)	*p*	No (n=1,955)	Yes (n=1,108)	*p*	No (n=1,568)	Yes (n=1,495)	*p*
Employed	0%	100%		46%	51%	*	50%	46%	*
Part-time (1-34 hrs/wk)	-	30%		28%	34%	*	30%	30%	
Full-time (35+ hrs/wk)	-	70%		72%	66%		70%	70%	
Volunteered	34%	38%	*	0%	100%		33%	39%	***
1-50 hours/year (1)	29%	30%	***	-	30%		32%	29%	
51-100 hours/year (2)	20%	25%		-	23%		23%	23%	
101-200 hours/year (3)	24%	28%		-	26%		25%	28%	
200+ hours/year (4)	26%	16%		-	21%		20%	21%	
Caregave	51%	46%	*	47%	53%	***	0%	100%	
1-20 hrs/wk	60%	69%	***	61%	71%	***	-	65%	
20+ hrs/wk	40%	31%		39%	29%		-	35%	
	Male, 55-64 (n=2,160)								
	Employment			Volunteer			Caregiving		
	No (n=877)	Yes (n=1,283)	*p*	No (n=1,430)	Yes (n=730)	*p*	No (n=1,331)	Yes (n=829)	*p*
Employed	0%	100%		57%	64%	***	60%	58%	
Part-time (1-34 hrs/wk)	-	14%		14%	15%		14%	15%	
Full-time (35+ hrs/wk)	-	86%		86%	85%		86%	85%	
Volunteered	30%	37%	***	0%	100%		33%	35%	
1-50 hours/year (1)	31%	31%		-	31%		33%	28%	
51-100 hours/year (2)	22%	23%		-	22%		21%	24%	
101-200 hours/year (3)	25%	26%		-	26%		26%	26%	
200+ hours/year (4)	22%	20%		-	21%		20%	22%	
Caregave	40%	37%		37%	40%		0%	100%	
1-20 hrs/wk	71%	78%	*	73%	79%	*	-	75%	
20+ hrs/wk	29%	22%		27%	21%		-	25%	

Note: Percentages are based on raw data, and the significance tests are based on Chi-Square tests.
$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.22. Descriptive statistics between employment, volunteering, and caregiving, by gender for older cohort (N=10,089)

	Female, 65+ (n=5,723)								
	Employment			Volunteer			Caregiving		
	No (n=5,077)	Yes (n=646)	*p*	No (n=3,856)	Yes (n=1,867)	*p*	No (n=4,178)	Yes (n=1,545)	*p*
Employed	0%	100%		10%	14%	***	10%	16%	***
Part-time (1-34 hrs/wk)	-	63%		61%	67%		64%	61%	
Full-time (35+ hrs/wk)	-	37%		39%	33%		36%	39%	
Volunteered	32%	39%	***	0%	100%		31%	37%	***
1-50 hours/year (1)	28%	30%	**	-	28%		30%	23%	**
51-100 hours/year (2)	19%	27%		-	20%		18%	23%	
101-200 hours/year (3)	29%	26%		-	29%		28%	30%	
200+ hours/year (4)	24%	17%		-	23%		23%	23%	
Caregave	26%	37%	***	25%	31%	***	0%	100%	
1-20 hrs/wk	60%	71%	***	59%	66%	**	-	62%	
20+ hrs/wk	40%	29%		41%	34%		-	38%	
	Male, 65+ (n=4,366)								
	Employment			Volunteer			Caregiving		
	No (n=3,627)	Yes (n=739)	*p*	No (n=3,032)	Yes (n=1,334)	*p*	No (n=3,218)	Yes (n=1,148)	*p*
Employed	0%	100%		15%	21%	***	17%	17%	
Part-time (1-34 hrs/wk)	-	45%		45%	46%		44%	49%	
Full-time (35+ hrs/wk)	-	55%		55%	54%		56%	52%	
Volunteered	29%	38%	***	0%	100%		30%	32%	
1-50 hours/year (1)	27%	30%		-	28%		27%	30%	
51-100 hours/year (2)	22%	25%		-	23%		24%	20%	
101-200 hours/year (3)	25%	24%		-	25%		25%	25%	
200+ hours/year (4)	25%	20%		-	24%		24%	25%	
Caregave	26%	27%	**	26%	28%	**	0%	100%	
1-20 hrs/wk	65%	75%		64%	73%		-	66%	
20+ hrs/wk	35%	25%		36%	27%		-	34%	

Note: Percentages are based on raw data, and the significance tests are based on Chi-Square tests.
$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.23. Descriptive statistics between employment, volunteering, and caregiving, by race for younger cohort (N=5,223)

	White, 55-64 (n=3,904)								
	Employment			Volunteer			Caregiving		
	No (n=1,766)	Yes (n=2,138)	*p*	No (n=2,482)	Yes (n=1,422)	*p*	No (n=2,164)	Yes (n=1,740)	*p*
Employed	0%	100%		54%	57%	+	58%	51%	***
Part-time (1-34 hrs/wk)	-	24%		22%	26%	+	23%	25%	
Full-time (35+ hrs/wk)	-	76%		78%	74%		77%	75%	
Volunteered	35%	38%	+	0%	100%		34%	39%	**
1-50 hours/year (1)	29%	33%	**	-	31%		33%	29%	
51-100 hours/year (2)	22%	24%		-	23%		23%	24%	
101-200 hours/year (3)	25%	27%		-	26%		25%	27%	
200+ hours/year (4)	24%	16%		-	20%		19%	20%	
Caregave	48%	42%	***	43%	48%	**	0%	100%	
1-20 hrs/wk	69%	77%	***	70%	78%	***	-	73%	
20+ hrs/wk	31%	23%		30%	22%		-	27%	
	Blacks, 55-64 (n=793)								
	Employment			Volunteer			Caregiving		
	No (n=430)	Yes (n=363)	*p*	No (n=490)	Yes (n=303)	*p*	No (n=414)	Yes (n=379)	*p*
Employed	0%	100%		41%	54%	***	46%	46%	
Part-time (1-34 hrs/wk)	-	20%		18%	23%		21%	20%	
Full-time (35+ hrs/wk)	-	80%		82%	77%		79%	80%	
Volunteered	33%	45%	***	0%	100%		38%	39%	
1-50 hours/year (1)	30%	23%		-	26%		27%	25%	
51-100 hours/year (2)	17%	23%		-	20%		19%	22%	
101-200 hours/year (3)	24%	30%		-	27%		29%	26%	
200+ hours/year (4)	29%	24%		-	26%		25%	27%	
Caregave	48%	48%		47%	49%		0%	100%	
1-20 hrs/wk	50%	56%		51%	55%		-	53%	
20+ hrs/wk	50%	44%		49%	45%		-	47%	

	Hispanics, 55-64 (n=526)								
	Employment			Volunteer			Caregiving		
	No (n=277)	Yes (n=249)	*p*	No (n=413)	Yes (n=113)	*p*	No (n=321)	Yes (n=205)	*p*
Employed	0%	100%		45%	56%	*	49%	45%	
Part-time (1-34 hrs/wk)	-	18%		17%	21%		15%	23%	
Full-time (35+ hrs/wk)	-	82%		83%	79%		85%	77%	
Volunteered	18%	25%	*	0%	100%		18%	27%	*
1-50 hours/year (1)	36%	22%		-	28%		31%	25%	
51-100 hours/year (2)	18%	29%		-	24%		26%	22%	
101-200 hours/year (3)	22%	27%		-	25%		21%	29%	
200+ hours/year (4)	24%	22%		-	23%		22%	24%	
Caregave	40%	37%		36%	49%	*	0%	100%	
1-20 hrs/wk	50%	60%		52%	62%		-	55%	
20+ hrs/wk	50%	40%		48%	38%		-	45%	

Note: Percentages are based on raw data, and the significance tests are based on Chi-Square tests.
$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 4.24. Descriptive statistics between employment, volunteering, and caregiving, by race for older cohort (N=10,089)

	White, 65+ (n=7,983)								
	Employment			Volunteer			Caregiving		
	No (n=6,863)	Yes (n=1,120)	*p*	No (n=5,268)	Yes (n=2,715)	*p*	No (n=5,923)	Yes (n=2,060)	*p*
Employed	0%	100%		13%	16%	***	13%	16%	***
Part-time (1-34 hrs/wk)	-	55%		54%	57%		55%	56%	
Full-time (35+ hrs/wk)	-	45%		46%	43%		45%	44%	
Volunteered	33%	39%	***	0%	100%		33%	37%	***
1-50 hours/year (1)	27%	30%	**	-	27%		28%	25%	
51-100 hours/year (2)	20%	26%		-	21%		20%	22%	
101-200 hours/year (3)	28%	24%		-	27%		27%	28%	
200+ hours/year (4)	25%	20%		-	24%		24%	24%	
Caregave	25%	30%	***	25%	28%	***	0%	100%	
1-20 hrs/wk	65%	77%	***	65%	70%	*	-	67%	
20+ hrs/wk	35%	23%		35%	30%		-	33%	
	Blacks, 65+ (n=1,284)								
	Employment			Volunteer			Caregiving		
	No (n=1,101)	Yes (n=183)	*p*	No (n=915)	Yes (n=369)	*p*	No (n=875)	Yes (n=409)	*p*
Employed	0%	100%		12%	21%	***	13%	17%	*
Part-time (1-34 hrs/wk)	-	51%		50%	51%		46%	59%	+
Full-time (35+ hrs/wk)	-	49%		50%	49%		54%	41%	
Volunteered	27%	42%	***	0%	100%		27%	33%	*
1-50 hours/year (1)	28%	29%		-	28%		30%	26%	
51-100 hours/year (2)	22%	28%		-	23%		24%	21%	
101-200 hours/year (3)	27%	26%		-	27%		26%	29%	
200+ hours/year (4)	23%	17%		-	22%		21%	24%	
Caregave	31%	39%	*	30%	37%	*	0%	100%	
1-20 hrs/wk	54%	61%	*	52%	62%	+	-	55%	
20+ hrs/wk	46%	39%		48%	38%		-	45%	

	Hispanics, 65+ (n=822)								
	Employment			Volunteer			Caregiving		
	No (n=740)	Yes (n=82)	*p*	No (n=705)	Yes (n=117)	*p*	No (n=598)	Yes (n=224)	*p*
Employed	0%	100%		9%	16%	*	8%	14%	*
Part-time (1-34 hrs/wk)	-	39%		38%	42%		36%	44%	
Full-time (35+ hrs/wk)	-	61%		62%	58%		64%	56%	
Volunteered	13%	23%	*	0%	100%		13%	17%	
1-50 hours/year (1)	45%	26%	+	-	42%		44%	38%	
51-100 hours/year (2)	16%	32%		-	19%		20%	16%	
101-200 hours/year (3)	21%	37%		-	24%		23%	27%	
200+ hours/year (4)	17%	5%		-	15%		14%	19%	
Caregave	26%	39%	*	27%	32%		0%	100%	
1-20 hrs/wk	48%	56%		48%	59%		-	50%	
20+ hrs/wk	52%	44%		52%	41%		-	50%	

Note: Percentages are based on raw data, and the significance tests are based on Chi-Square tests.
+$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 5.1. Logistic Regression Models of Engagement in Employment, by AGE (N=15,312)

	Employment			
	55-64 (n=5,223)		65+ (n=10,089)	
	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources				
ln(Social Security + Pension)	-	-	.88 (0.85, 0.91)	***
ln(Household Asset)	.80 (0.59, 1.07)		1.22 (0.90, 1.66)	
Physical Resources				
No functional limitations	4.34 (3.49, 5.40)	***	2.74 (2.16, 3.48)	***
No health conditions	1.59 (1.38, 1.84)	***	1.31 (1.15, 1.50)	***
No cognitive problems	3.52 (1.29, 9.63)	*	2.01 (1.04, 3.89)	*
Family Networks				
Potential demands				
# of grandkids	.98 (0.97, 1.00)	*	1.01 (1.00, 1.02)	*
Proximate parents present	1.06 (0.87, 1.30)		1.00 (0.69, 1.44)	
Current demands				
Spouse needs assistance	.96 (0.79, 1.15)		.87 (0.71, 1.06)	
Social Networks				
Religious attendance	1.05 (0.99, 1.11)	+	1.05 (1.00, 1.11)	+
Social visits	.97 (0.96, 0.98)	***	.98 (0.97, 0.99)	***
Socio-demographics				
Age	.86 (0.84, 0.88)	***	.89 (0.88, 0.91)	***
Race				
Black	.83 (0.66, 1.06)		.96 (0.78, 1.20)	
Hispanic	1.19 (0.89, 1.60)		.64 (0.42, 0.97)	*
(White)	-	-	-	
Female	.66 (0.57, 0.77)	***	.66 (0.56, 0.76)	***
Married	.91 (0.73, 1.13)		1.05 (0.84, 1.31)	
Years of education	1.09 (1.07, 1.12)	***	1.08 (1.05, 1.11)	***

+$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 5.2. Logistic Regression Models of Engagement in Volunteering, by AGE (N=15,312)

	Volunteering			
	55-64 (n=5,223)		65+ (n=10,089)	
	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources				
ln(Social Security + Pension)	-	-	1.08 (1.03, 1.14)	**
ln(Household Asset)	2.13 (1.55, 2.92)	***	1.69 (1.30, 2.18)	***
Physical Resources				
No functional limitations	1.27 (1.00, 1.62)	*	1.78 (1.54, 2.06)	***
No health conditions	.98 (0.82, 1.17)		1.07 (0.92, 1.24)	
No cognitive problems	4.40 (1.66, 11.63)	**	2.16 (1.50, 3.11)	***
Family Networks				
Potential demands				
# of grandkids	.99 (0.97, 1.01)		1.01 (0.99, 1.02)	
Proximate parents present	.83 (0.64, 1.07)		.89 (0.63, 1.26)	
Current demands				
Spouse needs assistance	.95 (0.81, 1.10)		.95 (0.82, 1.10)	
Social Networks				
Religious attendance	1.91 (1.78, 2.05)	***	1.84 (1.76, 1.93)	***
Social visits	1.02 (1.01, 1.03)	***	1.01 (1.01, 1.02)	***
Socio-demographics				
Age	.99 (0.96, 1.01)		.98 (0.97, 0.99)	***
Race				
Black	.98 (0.79, 1.23)		.85 (0.72, 1.00)	+
Hispanic	.71 (0.50, 1.01)	+	.50 (0.40, 0.64)	***
(White)	-	-	-	-
Female	1.06 (0.92, 1.23)		1.14 (1.00, 1.29)	*
Married	1.26 (1.01, 1.56)	*	1.18 (1.02, 1.36)	*
Years of education	1.26 (1.21, 1.31)	***	1.18 (1.16, 1.20)	***

$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 5.3. Logistic Regression Models of Engagement in Caregiving by AGE (N=15,312)

	Caregiving			
	55-64 (n=5,223)		65+ (n=10,089)	
	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources				
ln(Social Security + Pension)	-	-	.98 (0.95, 1.01)	
ln(Household Asset)	1.12 (0.84, 1.50)		.70 (0.49, 1.00)	*
Physical Resources				
No functional limitations	1.07 (0.85, 1.33)		1.19 (1.09, 1.30)	***
No health conditions	.89 (0.77, 1.03)		1.09 (0.95, 1.24)	
No cognitive problems	1.38 (0.57, 3.34)		2.10 (1.50, 2.96)	***
Family Networks				
Potential demands				
# of grandkids	1.10 (1.08, 1.12)	***	1.04 (1.03, 1.04)	***
Proximate parents present	2.73 (2.09, 3.56)	***	3.09 (2.33, 4.09)	***
Current demands				
Spouse needs assistance	1.52 (1.26, 1.84)	***	1.84 (1.60, 2.13)	***
Social Networks				
Religious attendance	1.07 (1.01, 1.12)	*	1.03 (0.99, 1.07)	
Social visits	1.00 (0.99, 1.01)		1.00 (1.00, 1.01)	
Socio-demographics				
Age	.98 (0.95, 1.00)	+	.94 (0.93, 0.95)	***
Race				
Black	1.00 (0.77, 1.28)		1.42 (1.20, 1.70)	***
Hispanic	.65 (0.48, 0.88)	**	1.05 (0.81, 1.35)	
(White)	-	-	-	-
Female	1.60 (1.38, 1.86)	***	1.37 (1.24, 1.52)	***
Married	1.32 (1.04, 1.68)	*	1.76 (1.45, 2.14)	***
Years of education	.98 (0.95, 1.01)		1.03 (1.01, 1.05)	*

+$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 5.4. Logistic Regression Models of Engagement in Employment, by AGE and GENDER (N=15,312)

	Employment							
	55-64 (n=5,223)				65+ (n=10,089)			
	Female		Male		Female		Male	
	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources								
ln(Social Security + Pension)	-	-	-	-	.91 (0.86, 0.96)	***	.85 (0.81, 0.88)	***
ln(Household Asset)	.35 (0.24,0.52)	***	1.69 (0.99, 2.89)	+	.62 (0.36, 1.07)	+	1.75 (1.21, 2.54)	**
Physical Resources								
No functional limitations	4.14 (3.14. 5.46)	***	4.79 (3.38, 6.79)	***	3.24 (2.36, 4.45)	***	2.46 (1.76, 3.43)	***
No health conditions	1.66 (1.36, 2.02)	***	1.59 (1.24, 2.03)	***	1.46 (1.20, 1.78)	***	1.22 (1.04, 1.44)	*
No cognitive problems	13.50 (2.14, 85.09)	**	1.91 (0.80, 4.53)		3.15 (0.92, 10.87)	+	1.63 (0.68, 3.92)	
Family Networks								
Potential demands								
# of grandkids	.98 (0.96, 1.00)	*	.99 (0.96, 1.02)		1.01 (0.99, 1.02)		1.02 (1.00, 1.03)	*
Proximate parents present	1.04 (0.80, 1.35)		1.11 (0.73, 1.70)		.85 (0.52, 1.39)		1.21 (0.74, 1.97)	
Current demands								
Spouse needs assistance	.90 (0.69, 1.17)		.97 (0.73, 1.28)		.77 (0.56, 1.06)		.90 (0.70, 1.14)	
Social Networks								
Religious attendance	1.00 (0.93, 1.07)		1.10 (1.01, 1.20)	*	.98 (0.91, 1.05)		1.11 (1.04, 1.18)	**
Social visits	.97 (0.96, 0.98)	***	.98 (0.96, 0.99)	***	.98 (0.97, 0.99)	***	.99 (0.97, 1.00)	**
Socio-demographics								
Age	.87 (0.84, 0.89)	***	.84 (0.80, 0.89)	***	.69 (0.43, 1.09)		1.67 (1.20, 2.33)	**
Race								
Black	.93 (0.72, 1.21)		.66 (0.46, 0.94)	*	1.07 (0.80, 1.43)		.83 (0.60, 1.16)	
Hispanic	.97 (0.65, 1.46)		1.52 (1.02, 2.25)	*	.53 (0.33, 0.86)	*	.75 (0.47, 1.19)	
(White)	-	-	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-
Married	.73 (0.55, 0.96)	*	1.34 (0.92, 1.95)		1.00 (0.77, 1.30)		1.20 (0.85, 1.70)	
Years of education	1.16 (1.12, 1.21)	***	1.04 (0.99, 1.08)	+	1.11 (1.07, 1.16)	***	1.06 (1.02, 1.09)	***

$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 5.5. Logistic Regression Models of Engagement in Volunteering, by AGE and GENDER (N=15,312)

	Volunteering							
	55-64 (n=5,223)				65+ (n=10,089)			
	Female		Male		Female		Male	
	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources								
ln(Social Security + Pension)	-	-	-	-	1.11 (1.03, 1.19)	**	1.05 (0.98, 1.12)	
ln(Household Asset)	1.61 (0.99, 2.62)	+	2.94 (1.70, 5.09)	***	1.66 (1.21, 2.28)	**	1.77 (1.19, 2.64)	**
Physical Resources								
No functional limitations	1.26 (0.94, 1.70)		1.25 (0.82, 1.90)		1.86 (1.54, 2.25)	***	1.66 (1.32, 2.10)	***
No health conditions	0.94 (0.74, 1.19)		1.03 (0.85, 1.26)		1.03 (0.86, 1.24)		1.10 (0.89, 1.36)	
No cognitive problems	6.26 (1.38, 28.36)	*	3.23 (1.11, 9.37)	*	2.17 (1.25, 3.76)	**	2.05 (1.17, 3.59)	*
Family Networks								
Potential demands								
# of grandkids	.99 (0.97, 1.02)		.99 (0.97, 1.02)		1.01 (0.99, 1.02)		1.00 (0.99, 1.01)	
Proximate parents present	.95 (0.70, 1.28)		.68 (0.47, 0.97)	*	.98 (0.66, 1.46)		.84 (0.43, 1.61)	
Current demands								
Spouse needs assistance	.84 (0.68, 1.04)		1.06 (0.83, 1.34)		.99 (0.80, 1.23)		.91 (0.75, 1.10)	
Social Networks								
Religious attendance	1.96 (1.81, 2.12)	***	1.87 (1.68, 2.09)	***	1.85 (1.72, 1.97)	***	1.82 (1.72, 1.94)	***
Social visits	1.02 (1.01, 1.03)	**	1.02 (1.00, 1.03)	*	1.02 (1.01, 1.02)	***	1.01 (1.00, 1.02)	*
Socio-demographics								
Age	1.01 (0.97, 1.04)		.96 (0.92, 1.00)	*	1.11 (0.91, 1.36)		1.24 (1.01, 1.53)	*
Race								
Black	.90 (0.71, 1.14)		1.07 (0.73, 1.57)		.76 (0.61, 0.94)	*	1.03 (0.80, 1.34)	
Hispanic	.57 (0.36, 0.91)	*	.94 (0.60, 1.46)		.46 (0.32, 0.66)	***	.59 (0.45, 0.79)	***
(White)	-	-	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-
Married	1.39 (1.01, 1.90)	*	1.15 (0.81, 1.62)		.95 (0.78, 1.14)		1.68 (1.32, 2.14)	***
Years of education	1.34 (1.27, 1.41)	***	1.20 (1.14, 1.26)	***	1.20 (1.16, 1.24)	***	1.16 (1.13, 1.20)	***

$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 5.6. Logistic Regression Models of Engagement in Caregiving, by AGE and GENDER (N=15,312)

	Caregiving							
	55-64 (n=5,223)				65+ (n=10,089)			
	Female		Male		Female		Male	
	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources								
ln(Social Security + Pension)	-	-	-	-	.96 (0.91, 1.00)	+	1.01 (0.96, 1.06)	
ln(Household Asset)	1.01 (0.68, 1.51)		1.25 (0.84, 1.85)		.85 (0.60, 1.22)		.57 (0.36, 0.92)	*
Physical Resources								
No functional limitations	1.04 (0.80, 1.34)		1.08 (0.77, 1.52)		1.27 (1.10, 1.45)	***	1.11 (0.93, 1.32)	
No health conditions	.91 (0.74, 1.13)		.88 (0.71, 1.09)		1.05 (0.87, 1.27)		1.12 (0.95, 1.33)	
No cognitive problems	3.18 (1.04, 9.75)	*	.62 (0.22, 1.77)		2.17 (1.33, 3.56)	**	1.99 (1.39, 2.84)	***
Family Networks								
Potential demands								
# of grandkids	1.10 (1.07, 1.13)	***	1.10 (1.07, 1.12)	***	1.04 (1.03, 1.05)	***	1.03 (1.02, 1.05)	***
Proximate parents present	2.53 (1.90, 3.36)	***	3.05 (2.08, 4.48)	***	2.65 (1.94, 3.60)	***	3.92 (2.12, 7.24)	***
Current demands								
Spouse needs assistance	1.33 (1.05, 1.68)	*	1.75 (1.24, 2.46)	**	1.76 (1.35, 2.30)	***	1.87 (1.59, 2.19)	***
Social Networks								
Religious attendance	1.10 (1.04, 1.18)	**	1.02 (0.93, 1.11)		1.03 (0.98, 1.09)		1.02 (0.97, 1.07)	
Social visits	1.00 (0.99, 1.01)		1.00 (0.99, 1.01)		0.99 (0.99, 1.00)		1.01 (1.00, 1.01)	*
Socio-demographics								
Age	.97 (0.94, 1.00)	*	.99 (0.95, 1.03)		1.02 (0.81, 1.28)		.93 (0.77, 1.13)	
Race								
Black	.95 (0.71, 1.28)		1.05 (0.68, 1.64)		1.60 (1.24, 2.06)	***	1.12 (0.89, 1.40)	
Hispanic	.76 (0.52, 1.12)		.52 (0.30, 0.91)	*	1.10 (0.82, 1.47)		.98 (0.67, 1.44)	
(White)	-	-	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-
Married	1.33 (1.00, 1.78)	+	1.43 (1.04, 1.97)	*	1.46 (1.05, 2.03)	*	2.85 (2.13, 3.83)	***
Years of education	1.00 (0.95, 1.04)		.97 (0.94, 1.00)	+	1.03 (1.00, 1.06)	*	1.02 (0.99, 1.05)	

+$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 5.7. Logistic Regression Models of Engagement in Employment, the Younger Cohort by RACE (N=5,223)

	Employment (55-64)					
	Whites		Blacks		Hispanics	
	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources						
ln(Social Security + Pension)	-	-	-	-	-	-
ln(Household Asset)	.80 (0.56, 1.14)		.60 (0.30, 1.22)		3.86 (0.21, 70.82)	
Physical Resources						
No functional limitations	3.53 (2.72, 4.57)	***	9.23 (5.18, 16.44)	***	10.17 (5.66, 18.27)	***
No health conditions	1.52 (1.27, 1.83)	***	2.81 (1.69, 4.67)	***	1.31 (0.71, 2.43)	
No cognitive problems	3.16 (0.89, 11.16)	+	1.31 (0.44, 3.92)		Omitted	
Family Networks						
Potential demands						
# of grandkids	.98 (0.97, 1.00)	+	.99 (0.95, 1.03)		.97 (0.90, 1.05)	
Proximate parents present	1.01 (0.70, 1.46)		1.12 (0.54, 2.35)		1.65 (0.62, 4.37)	
Current demands						
Spouse needs assistance	.94 (0.78, 1.14)		.93 (0.54, 1.61)		1.21 (0.59, 2.47)	
Social Networks						
Religious attendance	1.05 (0.97, 1.13)		1.18 (1.04, 1.35)	*	.93 (0.74, 1.16)	
Social visits	.97 (0.96, 0.98)	***	.98 (0.96, 1.01)		.97 (0.94, 1.01)	
Socio-demographics						
Age	.86 (0.84, 0.89)	***	.86 (0.81, 0.92)	***	.84 (0.78, 0.91)	***
Race						
Black	-	-	-	-	-	-
Hispanic	-	-	-	-	-	-
(White)	-	-	-	-	-	-
Female	.67 (0.58, 0.78)	***	1.24 (0.77, 2.00)		.30 (0.16, 0.56)	***
Married	.89 (0.74, 1.06)		1.42 (0.81, 2.48)		.50 (0.20, 1.23)	
Years of education	1.10 (1.08, 1.13)	***	1.10 (1.02, 1.18)	*	1.05 (1.00, 1.10)	+

+$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 5.8. Logistic Regression Models of Engagement in Employment, the Older Cohort by RACE (N=10,089)

	Employment (65+)					
	Whites		Blacks		Hispanics	
	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources						
ln(Social Security + Pension)	.86 (0.83, 0.89)	***	.91 (0.85, 0.98)	*	.90 (0.82, 1.00)	*
ln(Household Asset)	1.24 (0.89, 1.73)		1.67 (0.17, 16.65)		6.44 (0.29, 142.35)	
Physical Resources						
No functional limitations	2.64 (2.20, 3.17)	***	3.15 (1.48, 6.71)	**	3.73 (1.49, 9.37)	**
No health conditions	1.30 (1.13, 1.49)	***	1.60 (1.04, 2.45)	*	1.45 (0.87, 2.40)	
No cognitive problems	2.10 (0.83, 5.31)		1.68 (0.43, 6.47)		1.05 (0.32, 3.45)	
Family Networks						
Potential demands						
# of grandkids	1.02 (1.00, 1.03)	*	1.00 (0.98, 1.03)		1.00 (0.96, 1.03)	
Proximate parents present	.98 (0.64, 1.51)		1.08 (0.63, 1.82)		2.24 (0.57, 8.80)	
Current demands						
Spouse needs assistance	.87 (0.66, 1.15)		1.81 (0.94, 3.48)	+	.46 (0.19, 1.16)	+
Social Networks						
Religious attendance	1.04 (0.99, 1.11)		1.13 (0.97, 1.32)		1.01 (0.82, 1.23)	
Social visits	.98 (0.97, 0.99)	***	.99 (0.96, 1.02)		.99 (0.96, 1.01)	
Socio-demographics						
Age	1.06 (0.73, 1.55)		3.03 (1.07, 8.57)	*	1.30 (0.12, 13.93)	
Race						
Black	-	-	-	-	-	-
Hispanic	-	-	-	-	-	-
(White)	-	-	-	-	-	-
Female	.65 (0.54, 0.78)	***	.83 (0.53, 1.29)		.52 (0.31, 0.87)	*
Married	1.04 (0.84, 1.28)		.54 (0.29, 1.02)	+	2.09 (0.82, 5.33)	
Years of education	1.07 (1.04, 1.11)	***	1.12 (1.01, 1.24)	*	1.07 (0.98, 1.18)	

+$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 5.9. Logistic Regression Models of Engagement in Volunteering, the Younger Cohort by RACE (N=5,223)

	Volunteering (55-64)					
	Whites		Blacks		Hispanics	
	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources						
ln(Social Security + Pension)	-	-	-	-	-	-
ln(Household Asset)	2.00 (1.40, 2.86)	***	58.50 (4.68, 731.89)	**	.49 (0.02, 14.21)	
Physical Resources						
No functional limitations	1.17 (0.81, 1.70)		1.43 (0.79, 2.60)		1.79 (0.80, 4.01)	
No health conditions	.92 (0.77, 1.10)		1.21 (0.69, 2.12)		1.94 (1.17, 3.23)	*
No cognitive problems	7.40 (1.85, 29.66)	**	1.60 (0.37, (7.01)		Omitted	
Family Networks						
Potential demands						
# of grandkids	1.00 (0.97, 1.02)		.99 (0.95, 1.02)		.99 (0.91, 1.07)	
Proximate parents present	.80 (0.61, 1.06)		.79 (0.50, 1.26)		1.14 (0.32, 4.08)	
Current demands						
Spouse needs assistance	.96 (0.82, 1.13)		.95 (0.47, 1.92)		.74 (0.42, 1.31)	
Social Networks						
Religious attendance	1.87 (1.74, 2.00)	***	2.46 (2.06, 2.94)	***	2.22 (1.61, 3.05)	***
Social visits	1.02 (1.01, 1.03)	**	1.01 (0.99, 1.04)		1.04 (1.01, 1.08)	*
Socio-demographics						
Age	.99 (0.96, 1.02)		.99 (0.93, 1.07)		.97 (0.84, 1.12)	
Race						
Black	-	-	-	-	-	-
Hispanic	-	-	-	-	-	-
(White)	-	-	-	-	-	-
Female	1.14 (0.98, 1.33)	+	.86 (0.57, 1.31)		.63 (0.38, 1.04)	+
Married	1.27 (0.98, 1.64)	+	1.10 (0.50, 2.41)		1.08 (0.46, 2.54)	
Years of education	1.29 (1.24, 1.35)	***	1.16 (1.05, 1.28)	**	1.21 (1.11, 1.31)	***

+$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 5.10. Logistic Regression Models of Engagement in Volunteering, the Older Cohort by RACE (N=10,089)

	Volunteering (65+)					
	Whites		Blacks		Hispanics	
	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources						
ln(Social Security + Pension)	1.06 (1.01, 1.12)	*	1.12 (1.00, 1.25)	+	1.11 (0.95, 1.29)	
ln(Household Asset)	1.65 (1.26, 2.17)	***	5.82 (0.30, 114.82)		.36 (0.01, 20.25)	
Physical Resources						
No functional limitations	1.79 (1.52, 2.11)	***	1.28 (0.93, 1.77)		2.41 (1.62, 3.59)	***
No health conditions	1.05 (0.90, 1.21)		1.28 (0.95, 1.73)		1.12 (0.55, 2.30)	
No cognitive problems	2.54 (1.72, 3.76)	***	1.44 (0.84, 2.49)		.64 (0.11, 3.77)	
Family Networks						
Potential demands						
# of grandkids	1.01 (1.00, 1.03)		.98 (0.95, 1.73)	*	1.00 (0.96, 1.04)	
Proximate parents present	.88 (0.61, 1.27)		1.54 (0.77, 3.08)		.19 (0.02, 2.42)	
Current demands						
Spouse needs assistance	.97 (0.80, 1.16)		.73 (0.46, 1.15)		.74 (0.32, 1.70)	
Social Networks						
Religious attendance	1.80 (1.71, 1.90)	***	2.44 (1.96, 3.03)	***	2.90 (2.03, 4.14)	***
Social visits	1.01 (1.01, 1.02)	***	1.01 (0.99, 1.02)		1.01 (0.99, 1.03)	
Socio-demographics						
Age	1.18 (1.04, 1.34)	*	1.04 (0.61, 1.77)		1.16 (0.48, 2.80)	
Race						
Black	-	-	-	-	-	-
Hispanic	-	-	-	-	-	-
(White)	-	-	-	-	-	-
Female	1.18 (1.04, 1.33)	**	.81 (0.59, 1.09)		.72 (0.43, 1.22)	
Married	1.16 (0.97, 1.40)	+	1.27 (0.76, 2.14)		1.51 (0.54, 4.26)	
Years of education	1.20 (1.16, 1.23)	***	1.12 (1.04, 1.22)	**	1.11 (1.06, 1.16)	***

+$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 5.11. Logistic Regression Models of Engagement in Caregiving, the Younger Cohort by RACE (N=5,223)

	Caregiving (55-64)					
	Whites		Blacks		Hispanics	
	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources						
ln(Social Security + Pension)	-	-	-	-	-	-
ln(Household Asset)	1.12 (0.92, 1.37)		2.09 (0.69, 6.36)		.91 (0.05, 15.70)	
Physical Resources						
No functional limitations	1.09 (0.85, 1.41)		.80 (0.53, 1.21)		1.38 (0.65, 2.93)	
No health conditions	.90 (0.76, 1.08)		1.31 (0.89, 1.94)		.58 (0.40, 0.83)	**
No cognitive problems	.68 (0.20, 2.31)		1.03 (0.18, 5.98)		Omitted	
Family Networks						
Potential demands						
# of grandkids	1.12 (1.09, 1.15)	***	1.05 (1.02, 1.08)	**	1.06 (1.00, 1.12)	*
Proximate parents present	3.17 (2.22, 4.54)	***	1.98 (1.17, 3.35)	*	1.34 (0.89, 2.01)	
Current demands						
Spouse needs assistance	1.49 (1.16, 1.91)	**	1.63 (0.82, 3.22)		1.62 (0.96, 2.72)	+
Social Networks						
Religious attendance	1.06 (1.00, 1.13)	+	1.12 (1.01, 1.25)	*	1.05 (0.88, 1.25)	
Social visits	1.00 (0.99, 1.00)		1.01 (1.00, 1.04)		1.01 (0.99, 1.03)	
Socio-demographics						
Age	.98 (0.95, 1.00)	+	1.00 (0.95, 1.05)		.95 (0.88, 1.03)	
Race						
Black	-	-	-	-	-	-
Hispanic	-	-	-	-	-	-
(White)	-	-	-	-	-	-
Female	1.56 (1.28, 1.91)	***	1.62 (1.07, 2.46)	*	1.91 (1.10, 3.33)	*
Married	1.47 (1.11, 1.94)	**	1.03 (0.55, 1.93)		.84 (0.42, 1.67)	
Years of education	.98 (0.93, 1.02)		1.00 (0.93, 1.07)		1.00 (0.95, 1.05)	

$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 5.12. Logistic Regression Models of Engagement in Caregiving, the Older Cohort by RACE (N=10,089)

	Caregiving (65+)					
	Whites		Blacks		Hispanics	
	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources						
ln(Social Security + Pension)	.97 (0.92, 1.02)		.99 (0.92, 1.06)		1.02 (0.95, 1.10)	
ln(Household Asset)	.70 (0.49, 1.01)	+	.68 (0.03, 17.12)		.45 (0.04, 4.97)	
Physical Resources						
No functional limitations	1.19 (1.10, 1.29)	***	1.34 (0.94, 1.91)	+	1.02 (0.77, 1.35)	
No health conditions	1.14 (0.99, 1.32)	+	.82 (0.50, 1.35)		.93 (0.55, 1.58)	
No cognitive problems	2.14 (1.50, 3.06)	***	1.62 (0.86, 3.07)		4.03 (1.68, 9.65)	**
Family Networks						
Potential demands						
# of grandkids	1.04 (1.03, 1.05)	***	1.03 (1.00, 1.05)	**	1.04 (1.02, 1.06)	***
Proximate parents present	3.32 (2.66, 4.15)	***	2.18 (0.91, 5.24)	+	2.50 (0.38, 16.44)	
Current demands						
Spouse needs assistance	1.77 (1.55, 2.03)	***	3.19 (1.66, 6.10)	***	2.22 (1.33, 3.71)	**
Social Networks						
Religious attendance	1.04 (0.99, 1.09)		1.06 (0.96, 1.18)		.81 (0.73, 0.90)	***
Social visits	1.00 (0.99, 1.01)		1.01 (0.99, 1.02)		1.00 (0.98, 1.01)	
Socio-demographics						
Age	.99 (0.83, 1.17)		1.10 (0.77, 1.59)		.81 (0.55, 1.18)	
Race						
Black	-	-	-	-	-	-
Hispanic	-	-	-	-	-	-
(White)	-	-	-	-	-	-
Female	1.32 (1.18, 1.47)	***	2.03 (1.40, 2.94)	***	1.67 (1.09, 2.55)	*
Married	1.85 (1.51, 2.26)	***	1.04 (0.48, 2.26)		1.62 (0.78, 3.38)	
Years of education	1.02 (1.00, 1.05)	+	1.01 (0.93, 1.09)		1.07 (1.01, 1.12)	*

$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table 5.13. Unstandardized coefficients for Logistic Regression Models of Engagement in Employment, Volunteering and Caregiving, by AGE (N=15,312)

	Unstandardized Coefficients					
	55-64 (n=5,223)			65+ (n=10,089)		
	Employment	**Volunteering**	**Caregiving**	**Employment**	**Volunteering**	**Caregiving**
Financial Resources						
ln(Social Security + Pension)	-	-	-	-0.13	0.08	-0.02
ln(Household Asset)	-0.23	0.75	0.12	0.20	0.52	-0.36
Physical Resources						
No functional limitations	1.47	0.24	0.06	1.01	0.58	0.18
No health conditions	0.46	-0.02	-0.11	0.27	0.06	0.08
No cognitive problems	1.26	1.48	0.33	0.70	0.77	0.74
Family Networks						
Potential demands						
# of grandkids	-0.02	-0.01	0.09	0.01	0.01	0.04
Proximate parents present	0.06	-0.18	1.00	-0.00	-0.12	1.13
Current demands						
Spouse needs assistance	-0.05	-0.06	0.42	-0.14	-0.05	0.61
Social Networks						
Religious attendance	0.05	0.65	0.07	0.05	0.61	0.03
Social visits	-0.03	0.02	-0.00	-0.02	0.01	0.00
Socio-demographics						
Age	-0.15	-0.01	-0.02	-0.11	-0.02	-0.06
Race						
Black	-0.18	-0.02	-0.00	-0.04	-0.16	0.35
Hispanic	0.18	-0.34	-0.43	-0.45	-0.69	0.05
(White)						
Female	-0.41	0.06	0.47	-0.42	0.13	0.32
Married	-0.09	0.23	0.28	0.05	0.16	0.57
Years of education	0.09	0.23	-0.02	0.08	0.16	0.03
Constant	9.17	-17.01	-1.96	2.55	-12.35	6.78

$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Appendix

Appendix A. Un-weighted Logistic Regression Models

Un-weighted logistic regression models of the involvement in three productive activities by age are presented. Tables A.1 through Table A.3 show the involvement in employment, volunteering and caregiving respectively.

Table A.1. Un-weighted Logistic Regression Models of Engagement in Employment, by AGE (N=15,312)

	Employment			
	55-64 (n=5,223)		65+ (n=10,089)	
	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources				
ln(Social Security + Pension)	-	-	.89 (0.87, 0.92)	***
ln(Household Asset)	.73 (0.55, 0.98)	*	1.18 (0.90, 1.54)	
Physical Resources				
No functional limitations	4.29 (3.55, 5.18)	***	2.92 (2.39, 3.57)	***
No health conditions	1.59 (1.39, 1.82)	***	1.31 (1.14, 1.52)	***
No cognitive problems	2.23 (0.96, 5.17)	+	2.07 (1.23, 3.50)	**
Family Networks				
Potential demands				
# of grandkids	.99 (0.97, 1.00)	*	1.01 (1.00, 1.02)	*
Proximate parents present	1.05 (0.87, 1.27)		1.10 (0.80, 1.52)	
Current demands				
Spouse needs assistance	.98 (0.84, 1.14)		.86 (0.72, 1.02)	+
Social Networks				
Religious attendance	1.02 (0.97, 1.06)		1.03 (0.99, 1.08)	
Social visits	.97 (0.96, 0.98)	***	.98 (0.97, 0.99)	***
Socio-demographics				
Age	.86 (0.84, 0.87)	***	.89 (0.88, 0.90)	***
Race				
Black	.89 (0.74, 1.06)		.97 (0.80, 1.18)	
Hispanic	1.02 (0.82, 1.28)		.71 (0.54, 0.93)	*
(White)	-	-	-	-
Female	.63 (0.55, 0.71)	***	.64 (0.57, 0.73)	***
Married	.92 (0.77, 1.10)		1.02 (0.83, 1.24)	
Years of education	1.07 (1.05, 1.10)	***	1.08 (1.05, 1.10)	***

$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table A.2: Un-weighted Logistic Regression Models of Engagement in Volunteering, by AGE (N=15,312)

	Volunteering			
	55-64 (n=5,223)		65+ (n=10,089)	
	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources				
ln(Social Security + Pension)	-	-	1.08 (1.04, 1.12)	***
ln(Household Asset)	2.28 (1.67, 3.12)	***	1.81 (1.42, 2.30)	***
Physical Resources				
No functional limitations	1.34 (1.09, 1.63)	**	1.77 (1.57, 2.01)	***
No health conditions	1.01 (0.87, 1.17)		1.05 (0.93, 1.19)	
No cognitive problems	2.13 (0.76, 6.02)		2.14 (1.53, 3.00)	***
Family Networks				
Potential demands				
# of grandkids	.99 (0.98, 1.01)		1.00 (1.00, 1.01)	
Proximate parents present	.91 (0.73, 1.12)		.82 (0.60, 1.12)	
Current demands				
Spouse needs assistance	.93 (0.79, 1.09)		.91 (0.78, 1.05)	
Social Networks				
Religious attendance	1.96 (1.86, 2.06)	***	1.89 (1.82, 1.96)	***
Social visits	1.02 (1.01, 1.02)	***	1.01 (1.01, 1.02)	***
Socio-demographics				
Age	.99 (0.97, 1.01)		.98 (0.97, 0.98)	***
Race				
Black	.95 (0.78, 1.15)		.88 (0.75, 1.03)	
Hispanic	.77 (0.60, 1.00)	+	.54 (0.43, 0.68)	***
(White)	-	-	-	-
Female	1.01 (0.88, 1.16)		1.09 (0.98, 1.21)	
Married	1.29 (1.07, 1.56)	**	1.19 (1.01, 1.41)	*
Years of education	1.26 (1.23, 1.30)	***	1.17 (1.15, 1.20)	***

$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Table A.3: Un-weighted Logistic Regression Models of Engagement in Caregiving by AGE (N=15,312)

	Volunteering			
	55-64 (n=5,223)		65+ (n=10,089)	
	OR (95% CI)	*p*	OR (95% CI)	*p*
Financial Resources				
ln(Social Security + Pension)	-	-	.98 (0.95, 1.01)	
ln(Household Asset)	1.14 (0.86, 1.49)		.75 (0.59, 0.96)	*
Physical Resources				
No functional limitations	.99 (0.84, 1.17)		1.19 (1.05, 1.34)	**
No health conditions	.86 (0.76, 0.98)	*	1.04 (0.92, 1.18)	
No cognitive problems	1.35 (0.67, 2.70)		2.06 (1.54, 2.76)	***
Family Networks				
Potential demands				
# of grandkids	1.07 (1.06, 1.08)	***	1.03 (1.03, 1.04)	***
Proximate parents present	2.96 (2.45, 3.58)	***	3.32 (2.51, 4.40)	***
Current demands				
Spouse needs assistance	1.45 (1.26, 1.68)	***	1.84 (1.58, 2.13)	***
Social Networks				
Religious attendance	1.08 (1.04, 1.13)	***	1.03 (1.00, 1.07)	+
Social visits	1.00 (0.99, 1.00)		1.00 (1.00, 1.01)	
Socio-demographics				
Age	.98 (0.96, 1.00)	*	.94 (0.93, 0.95)	***
Race				
Black	1.00 (0.84, 1.19)		1.42 (1.22, 1.64)	***
Hispanic	.68 (0.55, 0.84)	***	1.07 (0.88, 1.29)	
(White)	-	-	-	-
Female	1.48 (1.31, 1.68)	***	1.43 (1.29, 1.58)	***
Married	1.29 (1.09, 1.53)	**	1.70 (1.43, 2.01)	***
Years of education	1.00 (0.98, 1.02)		1.03 (1.01, 1.05)	***

$+p \leq .10$. $*p \leq .05$. $**p \leq .01$. $***p \leq .001$.

Bibliography

AARP (2004). *Caregiving in the U.S.*. National Alliance for Caregiving and AARP

Abramson, P.R., & Claggett, W. (2001). Recruitment and political participation. *Political Research Quarterly, 54*(4). Pp. 905-916.

Allen, S.M., Goldscheider, F., & Ciambrone, D.A. (1999). Gender roles, marital intimacy, and nomination of spouse as primary caregiver. *The Gerontologist, 39.* pp. 150-158.

American Association of Retired Persons (2005). *The business case for workers age 50+: Planning for tomorrow's talent needs in today's competitive environment.* Washington, DC: AARP.

American Association of Retired Persons (2003). *Lean on me: Support and minority outreach for grandparents raising grandchildren*. Washington, DC: AARP.

American Association of Retired Persons (n.d.). *Providing childcare for grandchildren when grandparents provide childcare.* Retrieved on November 12, 2006 from http://www.aarp.org/families/grandparents/childcare/when_grandparents_provide_childcare.html

American Community Survey (2006). *Old-Age Dependency Ratio of the Total Population*. U.S. Census Bureau.

American Society of Aging (n.d.). *ASA's Civic Engagement Program*. Retrieved on May 6th 2010 from http://www.asaging.org/asav2/civiceng/index.cfm

Apfel, N.H. & Seitz, V. (1991). Four models of adolescent mother-grandmother relationships in black inner-city families. *Family Relations, 40*(4). Pp. 421-429.

Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6). Pp. 1173-1182.

Barth, M.C., McNaught, W., & Rizzi, P. (1995). Older Americans as workers. In Bass, S.A. (ed.), *Older and active: How Americans over 55 are contributing to society.* Yale University Press.

Bass, S. A. & Caro, F.G. (2001). Productive aging: A conceptual framework. In Morrow-Howell, N., Hinterlong, J. & Sherraden, M. (Eds.), *Productive aging: Concepts and challenges.* Baltimore: The Johns Hopkins University Press.

Bass, S.A., & Caro, F.G. (1996). Theoritical perspectives on productive aging, in Crown, W.H. (ed.), *Handbook on employment and the elderly*. Westport, CT: Greenwood. Pp. 262-275.

Baydar, N. & Brooks-Gunn, J. (1998). Profiles of grandmothers who help care for their grandchildren in the United States. *Family Relations, 47*(4). Pp. 385-393.

Bengtson, V.L. & Schaie, K.W. (eds.) (1999). *Handbook of theories of aging.* NY: Springer.

Bengston, V.L., Rosenthal, C. & Burton, L. (1990). Families and aging: Diversity and heterogeneity. In Binstock, R.H., & George, L. (eds.), *Handbook of aging and the social sciences* (3rd ed.). San Diego, CA: Academic.

Blau, D. (1994). Labor force dynamics of older men. *Econometrica, 62* (1). Pp. 117-156.

Bonvalet, C., & Andreyev, Z. (2003). The Local family circle. *Population, 58,* 9-42.

Bound, J., Schoenbaum, M., & Waidmann, T. (1996). Race differences in labor force attachment and disability status. *The Gerontologist, 36*(3). Pp. 311-321.

Brady, H.E., Verba, S., & Schlozman, K.L. (1995). Beyond SES: A resource model of political participation. *APSR, 89*(2).

Burkhauser, R.V., & Quinn, J.F. (1990). Retirement wealth accrual and the patterns of post-career employment. In Bluestone, I., Montgomery, R.J.V., & Owen, J.D. (eds.), *The aging of the American work force: Problems, programs, policies.* Detroit, Wayne State University Press.

Burr, J.A., Choi, N.G., Mutchler, J.E., & Caro, F.G. (2005). Caregiving and volunteering: Are private and public helping behaviors linked? *Journal of Gerontology, 60B* (chronicle health conditions, no cognitive problems, and no functional limitations 5). Pp. S247-S256.

Burton, L.M. (1992). Black grandparents rearing children of drug-addicted parents: Stressors, outcomes and the social service needs. *The Gerontologist, 32*. pp. 744-751.

Burton, L.M., & Dilworth-Anderson, P. (1991). The intergenerational family roles of aged black Americans. *Marriage and Family Review, 16*(3/4). Pp. 311-330.

Butler, R.H. (1975). *Why survive? Being old in America.* NY: Harper & Row.

Butler, R.N. & Gleason, H.P. (1985). *Productive aging: Enhancing vitality in later life.* NY: Springer publishing company.

Butrica, B.A., & Iams, H.M. (2003). The impact of minority group status on the projected retirement income of divorced women in the baby boom cohort. *Journal of Women & Aging, 15*(2/3). Pp. 67-88.

Calasanti, T. & Bowen, E. (2006). Spousal Caregiving and Crossing Gender Boundaries: Maintaining Gendered Identities. *Journal of Aging Studies,* 20, 253–63.

Call, K.T., Finch, M.A., Huck, S.M., Kane, R.A. (1999). Caregiver burden from a social exchange perspective: Caring for older people after hospital discharge. *Journal of Marriage and the family, 61*(3). Pp. 688-699.

Caputo, R. (2006). Increased wealth and income as correlates of self-assessed retirement. *Journal of Gerontological Social Work, 47*(1/2). Pp. 175-201.

Caro, F.G., & Bass, S.A. (1997). Receptivity to volunteering in the immediate postretirement period. *The Journal of Applied Gerontology, 16*(4). Pp. 427-441.

Caro, F.G., Bass, S.A., & Chen, Y.-P. (1993). Introduction: Achieving a productive aging society. In Bass, S.A., Caro, F.G., & Chen, Y.-P. (Eds.), *Achieving a productive aging society.* Westport, CT: Auburn House.

Carr, D. (2009). Aging in America: The link between productivity and resources in the third age. *Ageing international, 34*(3), 154-171.

Chambre, S.M. (1993). Volunteerism by elders: Past trends and future prospects. *The Gerontologist, 33*(2). pp. 221-228.

Chambre, S.M. (1987). *Good deeds in old age: Volunteering by the new leisure class.* Lexington, MA: Lexington Books.

Chang, C. F., & White-Means, S. I. (1991). The men who care: An analysis of male primary caregivers who care for frail elderly at home. *Journal of Applied Gerontology, 10*(3), 343-358.

Choi, L.H. (2003). Factors affecting volunteerism among older adults. *The Journal of Applied Gerontology, 22*(2). Pp. 179-196.

Choi, N.G., Burr, J.A., Mutchler, J.E. & Caro, F.G. (2007). Formal and informal volunteer activity and spousal caregiving among older adults. *Research on Aging, 29*(2). Pp. 99-124.

Clary, E.G., & Snyder, M. (1991). A functional analysis of altruism and prosocial behavior: The case of volunteerism. *Review of Personality and Social Psychology, 12*. pp. 119-147.

Cnaan, R.A., & Cwikel, J.G. (1992). Elderly volunteers: Assessing their potential as an untapped resource. *Journal of Aging and Social Policy, 4*(). Pp. 125-147.

Cnaan, R.A., & Goldberg-Glen, R.S. (1991). Measuring motivation to volunteer n human services. *Journal of Applied Behavioural Sciences, 27*(3). Pp. 269-284.

Coile, C. (2004). Retirement incentives and couples' retirement decisions. *The B.E. Journal of Economic Analysis & Policy, 4*(1), Article 17.

Compilation of Patient Protection and Affordable Care Act (2010). Office of the Legislative Counsel: U.S. House of Representatives. Retrieved on August 9th, 2010 from http://docs.house.gov/energycommerce/ppacacon.pdf

Covinsky, K. E., Eng, C., Lui, L-Y, Sands, L. P., et al. (2001). Reduced employment in caregivers of frail elders: Impact of ethnicity, patient clinical characteristics, and caregiver characteristics. Journal of Gerontology, *56A*(11), M707-713.

Crown, W.H. (1996). *Handbook on employment and the elderly.* Westport, CT: Greenwood Press.

Cutler, S.J. (2000). Age differences in voluntary association memberships: Fact or artifact. *Journal of Gerontology, 55B*(2). Pp. S98-S107.

Dentinger, E., & Clarkberg, M. (2002). Informal caregiving and retirement timing among men and women: gender and caregiving relationships in late midlife. *Journal of Family Issues, 23.* Pp. 857-879.

Dilworth-Anderson, P., Brummett, B. H., Goodwin, P., Williams, S. W., Williams, R. B., & Siegler, I. C. (2005). Effect of race on cultural justifications for caregiving. *The journals of Gerontology, 60B*(5). pp. S257-262.

Dilworth-Anderson, P., & Burton, L. (1999). Critical issues in understanding family support and older minorities. In Miles, T.P. (ed.), *Full color aging*. Washington, DC: Gerontological Society of America.

Dilworth-Anderson, P., Goodwin, P. Y., & Williams, S. W. (2004). Can culture help explain the physical health effects of caregiving over time among African American caregivers? *Journal of Gerontology: Social Sciences, 59B.* pp. S138-145.

Doty, P. (1995). Older caregivers and the future of informal caregiving. In Bass, S.A. (ed.), *Older and active: How Americans over 55 are contributing to society*. The Commonwealth Fund. Yale University Press.

Doty, P., Jackson, M.E., & Crown, W. (1998). The impact of female caregivers' employment status on patterns of formal and informal eldercare. *The Gerontologist, 38*(3). Pp. 331-341.

Dwyer, J.W., Lee, G.R., & Jankowski, T.B. (1994). Reciprocity, elder satisfaction, and caregiver stress and burden: The exchange of aid in the family caregiving relationship. *Journal of Marriage and the Family, 56*(1). Pp. 35-43.

Eggebeen, D.J., & Wilhelm, M.O. (1995). Patterns of support given by older Americans to their children. In Bass, S.A. (ed.), *Older and active: How Americans over 55 are contributing to society.* Yale University Press.

Estes, C.L. (2001). *Social policy and aging: A critical perspective.* Thousand Oaks, CA: Sage Publications.

Estes, C.L., & Mahakian, J.L. (2001). The political economy of productive aging. In Morrow-Howell, N., Hinterlong, J. & Sherraden, M. (Eds.), *Productive aging: Concepts and challenges*. Baltimore: The Johns Hopkins University Press.

Farkas, J. I., & Himes, C. L. (1997). The influence of caregiving and employment on the voluntary activities of midlife and older women. *The Journal of Gerontology, 52(B),* S180-189.

Feld, S., Dunkle, R.E., Schroepfer, T., & Shen, H-W (2006). Expansion of elderly couple's IADL caregiver networks beyond the marital dyad. *International Journal of Aging and Human Development, 63*(2). Pp. 95-113.

Feld, S., Dunkle, R.E., & Schroepfer, T. (2004). Race/Ethnicity and marital status in IADL caregiver networks. *Research on Aging, 26*(5). Pp. 531-558.

Fields, G.S., & Mitchell, O.S. (1984). Economic determinants of the optimal retirement age: An empirical investigation. *The Journal of Human Resources, 19*(2). Pp. 245-262.

Fischer, L.R., & Schaffer, K.B. (1993). *Older volunteers: A guide to research and practice.* Newbury Park, CA: Sage.

Fitzgerald, F. (1986). *Cities on a hill.* New York: Simon and Schuster.

Freeman, L. (2006). *The Development of Social Network Analysis.* Vancouver: Empirical Press.

French, E. (2005). The effects of health, wealth, and wages on labour supply and retirement behaviour. *The Review of Economic Studies, 72*(2). Pp. 395-427.

Fuller-Thomson, E., & Minkler, M. (2001). American grandparents providing extensive child care to their grandchildren: Prevalence and profile. *The Gerontologist, 41*(2). Pp. 201-209.

Gerber, A.S., & Green, D.P. (2000). The effects of canvassing, telephone calls, and direct mail on voter turnout: A field experiment. *The American Political Science Review, 94*(3). Pp. 653-663.

Gillespie, D. F., & King, A. E. O. (1985). Demographic understanding of volunteerism. *Journal of Sociology and Social Welfare, 12*, 798-816.

Goldstein, K.M., & Ridout, T.N. (2002). The politics of participation: Mobilization and turnout over time. *Political Behavior, 24*(1). Pp. 3-29.

Goodenough, W. H. (1999). Outline of a framework for a theory of cultural evolution. *Cross-Cultural Research, 33*. pp. 84-107.

Goodman, C., & Silverstein, M. (2002). Grandmothers raising grandchildren: Family structure and well-being in culturally diverse families. *The Gerontologist, 42*(5). Pp. 676-689.

Gregoire, T.K., Kilty, K., & Richardson, V. (2002). Gender and racial inequities in retirement resources. *Journal of Women & Aging, 14*(3/4). Pp. 25-39.

Grigsby, J.S. (1991). Paths for future population aging. *The Gerontologist, 31*. Pp. 195-203.

Gujarati, D. N. (2001). Basic econometrics (4th eds). N.Y.: McGraw-Hill Higher Education.

Gustman, A.A., & Steinmeier, T.L. (1984). Partial retirement and the analysis of retirement behavior. *Industrial and labor relations review, 37*. pp. 403-415.

Guzman, L. (2004). *Grandma and grandpa taking care of the kids: patterns of involvement.* Washington, DC: Child Trends Organization.

Haider, S., & Loughran, D. (2001). *Elderly labor supply: Work or play?* Boston College: Center for Retirement Research Working Papers.

Hendricks, J. (1995a). Exchange theory in aging. In Maddox, G. (ed.), *The encyclopedia of aging* (2nd ed.). NY: Springer.

Hendricks, J. (1995b). The social construction of ageism, in Bond, L.A., Cutler, S.J., & Grams, A. (eds.) *Promoting successful and productive aging.* Thousand Oaks, CA: SAGE publications.

Hendricks, J., & Cutler, S.J. (2004). Volunteerism and socioemotional selectivity in later life. *The Journals of Gerontology, 59B*(5). Pp. S251-S257.

He, W., Sengupta, M., Velkoff, V.A., & DeBarros, K.A. (2005). 65+ in the United States: 2005. Washington DC: US GPO. Retrieved on April 6th, 2006 from http://www.census.gov/prod/2006pubs/p23-209.pdf

Hersch, J., & White-Means, S. (1993). Employer-sponsored health and pension benefits and the gender/race wage gap. *Social Science Quarterly*, *74*(4). Pp. 851-866.

Herzog, A.R. & Morgan, J.N. (1993). Formal volunteer work among older Americans. In Bass, S.A., Caro, F.G., & Chen, Y-P (eds.), *Achieving a productive aging society.* Westport, CY: Auburn House.

Hogan, R., & Perrucci, C.C. (1998). Producing and reproducing class and status differences: Racial and gender gaps in U.S. employment and retirement income. *Social Problems, 45*(4). Pp. 528-549.

Hogarth, T., & Barth, M.C. (1991). Cost and benefits of hiring older workers: A case study of B&Q. *International Journal of manpower, 12*(8). Pp. 5-17.

Holbrook, T.M., & McClurg, S.D. (2005). The mobilization of core supporters: Campaigns, turnout, and electoral composition in United States Presidential Elections. *American Journal of Political Science, 49*(4). Pp. 689-703.

Holstein, M. (1992). Productive aging: A feminist critique. *Journal of Aging and Social Policy, 4*(3-4). Pp. 17-33.

Honig, M., & Hanoch, G.. (1985). Partial Retirement as a separate mode of retirement behavior. *Journal of Human Resources, 20.* pp. 21-46.

Hurd, M.D., & Boskin, M.J. (1984). The effect of social security on retirement in the early 1970s. *Quarterly Journal of Economics, 99*(4). Pp. 767-790.

Independent Sector (2000). *America's senior volunteers.* Retrieved on August 28, 2006 from http://www.independentsector.org/PDFs/SeniorVolun.pdf

Independent Sector (1999). *Giving and Volunteering in the United States.* Retrieved on August 28, 2006 from http://www.independentsector.org/GandV/default.htm

Jablonski, M., Kunze, K., and Rosenblum, L. (1990). Productivity, age and labor force composition changes in the US work force. In Bluestone, I., Montgomery, R.J.V., and Owen, J.D. (eds.), *The aging of the American work force: Problems, programs and policies.* Detroit: Wayne State University Press.

Jendrek, M.P. (1993). Grandparents who parent their grandchildren: Effects on lifestyle. *Journal of Marriage and he Family, 55*(3). Pp. 609-621.

Jendrek, M.P. (1994). Grandparents who parent their grandchildren: Circumstances and decisions. *The Gerontologist, 34*(2). Pp. 206-216.

Jirovec, R.L. (2005). Differences in family functioning andhealth between older adult volunteers and non-volunteers. *Journal of Gerontological social Work, 46*(2). Pp. 23-35.

Judd, C.M., & Kenny, D.A. (1981). Process analysis: Estimating mediation in evaluation research. *Evaluation Research, 5*(5). Pp. 602-619.

Juster, F. T. (1985). Conceptual and methodological issues involved in the measurement of time use. In Juster, F. T., & Stafford, F. P. (Eds.), *Time, Goods, and Well-being.* Ann Arbor: Institute for Social Research, The University of Michigan.

Karp, F. (2007). *Growing older in America: The Health and Retirement Study.* U.S. Department of Health and Human Services. (NIH Publication No. 07-5757)

Katz, S.J., Kabbeto, M., & Langa, K.M. (2000). Gender disparities in the receipt of home care for elderly people with disability in the United States. *Journal of the American Medical Association, 284*(23). Pp. 3022-3027.

Kaye, L. W. (2005). *Perspecitves on productive aging: Social work with the new aged.* Washington, D.C.: National Association of Social Workers Press.

Kaye, L.W., Butler, S.S. & Webster, N.M. (2003). Toward a productive aging paradigm for geriatric practice. *Aging International, 28*(2). Pp. 200-213.

Keefe, J., & Fancey, P., (2002). Work and eldercare: Reciprocity between older mothers and their employed daughters. *Canadian Journal on Aging, 21*(2). Pp. 220-241.

Kernell, S., & Jabcobson, G.C. (2003). *The logic of American politics.* Washington, D.C.: A Division of Congressional Quarterly Inc.

Komisar, H.L., Lambrew, J.M. & Feder, J. (1996). *Long-Term Care for the Elderly*. New York: The Commonwealth Fund.

Ketter, S., Zukin, C., Andolina, M., & Jenkins, K. (2002). *The Civic and Political Health of a Nation: A Generational Portrait*. CIRCLE and The Pew Charitable Trusts. http://www.civicyouth.org/research/products/youth_index.htm

Li, Y., & Ferraro, K.F. (2006). Volunteering in middle and later life: is health a benefit barrier or both? *Social Forces, 85*(1). Pp. 497-519.

Lugaila, T., Overturf, J. (2004). *Children and the households they live in: 2000. Census 2000 Special Reports.* Washington DC: US Department of Commerce.

Lum, T.Y., & Lightfoot, E. (2005). The effects of volunteering on the physical and mental health of older people. *Research on aging, 27*(1). Pp. 31-55.

Maehara, T., & Takemura, A. (2007). The norms of filial piety and grandmother roles as perceived by grandmothers and their grandchildren in Japan and South Korea. *International Journal of Behavioral Development, 31,* 585-593.

Manning, L. K. (2010).Gender and religious differences associated with Volunteering in later life. *Journal of Women & Aging, 22*(2), 125-135.

McBride, A. (2007). Civic engagement, older adults, and inclusion. *Generations, 30*(4), 66-71.

McClurg, S.D. (2004). Indirect mobilization: The social consequences of party contacts in an election campaign. *American Politics Research, 32*(4). Pp. 406-443.

McClurg, S.D. (2003). Social networks and political participation: The role of social interaction in explaining political participation. *Political Research Quarterly, 56*(4). Pp. 449-464.

McGarry, K. (2002). Health and retirement: Do changes in health affect retirement expectations? *NBER Working Paper, no.9317.*

McLanahan, S.S., & Monson, R.R. (1990). *Caring for the elderly: Prevalence and consequences.* National Survey of Families and Households. Working paper, no.18, Department of Sociology, University of Wisconsin – Madison.

McNaught, W., & Barth, M.C. (1992). Are older workers "good buys"? – A case study of Days Inns of America. *Sloan Management Review, 33*. pp. 53-63.

McNaught, W., Barth, M.C., & Henderson, P.H. (1991). Older Americans: Willing and able to work. In Munnell, A.H. (ed), *Retirement and public policy*. Dubuque, IA: Kendall/Hunt.

Miah, M.S. & WilCox-Gök, V. (2007). Do the sick retire early? Chronic illness, asset accumulation and early retiremet. *Applied Economics, 39*(15). Pp. 1921-1936.

Midlarsky, E. & Kahana, E. (1994). *Altruism in later life.* Thousand Oaks, CA: Sage publications.

Miller, B., Campbell, R.T., Davis, L., Furner, S., Giachello, A., Prohaska, T., Kaufman, J.E., Li, M. & Perez, C. (1996). Minority use of community long-term care services: A comparative analysis. *Journal of Gerontology: Social Sciences, 51B*(2). Pp. S70-S81.

Miller, B., & Guo, S. (2000). Social support for spouse caregivers of persons with dementia. *Journal of Gerontology, 55B*(3). Pp. S163-172.

Miller, B., & McFall, S. (1991). The effect of caregiver's burden on change in frail older persons' use of formal helpers. *Journal of Health and Social Behavior, 32*(2). Pp. 165-179.

Minkler, M., Roe, K.M., & Price, M. (1992). The physical and emotional health of grandmothers raising grandchildren in the crack cocaine epidemic. *The Gerontologist, 32.* Pp. 752-761.

Monk, A. (1995). Volunteerism. In Maddox G.L. (ed.), *The encyclopedia of aging*. NY: Springer Publishing Co.

Moody, H.R. (1993). Age, productivity, and transcendence. In Bass, S.A., Caro, F.G., & Chen, Y-P (eds.), *Achieving a productive aging society.* Westport, CY: Auburn House.

Moody, H.R. (2001). Productive aging and the ideology of old age. In Morrow-Howell, N., Hinterlong, J. & Sherraden, M. (Eds.), *Productive aging: Concepts and challenges.* Baltimore: The Johns Hopkins University Press.

Morris, S.A., Sherwood, S., & Morris, J.N. (1996). A dynamic model for explaining changes in use of IADL/ADL care in the community. *Journal of Health and Social Behavior, 37*(1). Pp. 91-103.

Morrow-Howell, N. (2001). *Productive Engagement of Older Adults: Effects on Well-being*. White paper for the Longer Life Foundation.

Morrow-Howell, N. (2010). Volunteering in later life: Research frontiers. *Journal of Gerontology: Socio Sciences, 65B*(4), 461-469.

Morrow-Howell, N., Hinterlong, J., Rozario, P.A., & Tang, F. (2003). Effects of volunteering on the well-being of older adults. *The Journal of Gerontology, 58B*(3). Pp. S137-S145.

Mouw, T. (2003). Social Capital and finding a job: Do contacts matter? *American Sociological Review, 63,* 868-898.

Mowery, D.C. & Kamlet, M.S. (1993). New technologies and the aging work force. In Bass, S.A., Caro, F.G., & Chen, Y-P (eds.), *Achieving a productive aging society.* Westport, CY: Auburn House.

Musick, M.A., Herzog, A.R., House, J.S. (1999). Volunteering and mortality among older adults: Findings from a national sample. *Journal of Gerontology, 54B*(3). Pp. S173-S180.

Mutchler, J.E. & Bullers, S. (1994). Gender differences in formal care use in later life. *Research on Aging, 16*. Pp. 235-250.

Nwafor, F.C. (2005). Social Security privatization and African Americans: A comparative analysis. *Journal of Black Studies, 35*(3). Pp. 248-266.

Oman, D., Thoresen, C.E., & McMahon, K. (1999). Volunteerism and mortality among the community-dwelling elderly. *Journal of Health Psychology, 4*(3). Pp. 301-316.

Omoto, A.M., Snyder, M., & Martino, S.C. (2000). Volunteerism and the life course: Investigating age-related agendas for action. *Basic and applied social psychology, 22*(3). Pp. 181-197.

Onyx, J., & Benton, P. (1996). Retirement: A problematic concept for older women. *Journal of Women & Aging, 8*(2). Pp. 19-34.

Orel, N.A., Ford, R.A., & Brock, C. (2004). Women's financial planning for retirement: The impact of disruptive life events. *Journal of Women & Aging, 16*(3/4). Pp. 39-53.

Ozawa, M.N., & Kim, H. (2001). Money's worth in social security benefits: Black-white differences. *Social Work Research, 25*. Pp. 5-14.

Peterson, D. A., & Wendt, P.F. (1995). Training and education of older Americans as workers and volunteers. In Bass, S.A. (ed.), *Older and active: How Americans over 55 are contributing to society.* Yale University Press.

Petersen, T., Saporta, I., & Seidel, M. L. (2000). Offering a job: Meritocracy and social networks. *American Journal of Sociology, 106,* 763-816.

Price, C.A., (2002). Retirement for women: The impact of employment. *Journal of Women & Aging, 14*(3/4). Pp. 41-57.

Pruchno, R. (1999). Raising grandchildren: The experiences of Black and White grandmothers. *The Gerontologist, 39*(2). Pp. 209-221.

Purcell, P. J. (2009). Income of Americans aged 65 and older, 1968 to 2008. CRS Report for Congress. Washington D.C.: Congressional Research Service.

Putnam, R.D. (2000). *Bowling alone: The collapse and revival of American community.* NY: Simon and Schuster.

Okun, M.A. (1994). The relation between motives for organizational volunteering and the frequency of volunteering by elders. *The Journal of Applied Gerontology, 13*(2). Pp. 115-126.

Quadagno, J., & Reid, J. (1999). The political economy perspective in aging. In Bengtson, V.L., & Schaie, K.W. (eds.), *Handbook of theories of aging.* NY: Springer Publishing Company.

Quick, H.E., & Moen, P. (1998). Gender, employment, and retirement quality: A life course approach to the differential experiences of men and women. *Journal of Occupational Health Psychology, 3*(1). Pp. 44-64.

Quinn, J.F. (1977). Microeconomic determinants of early retirement: A cross-sectional view of white married men. *Journal of Human Resources, 12.* Pp. 329-347.

Quinn, J.F. & Burkhauser, R.V. (1990). *Retirement preferences and plans of older American workers.* Mimeo, Boston College, Chestnut Hill, MA.

Quinn, J.F. & Burkhauser, R.V. (1993). Labor market obstacles to aging productively. In Bass, S.A., Caro, F.G., & Chen, Y-P (eds.), *Achieving a productive aging society.* Westport, CY: Auburn House.

Rakowski, W., Clark, M.A., Miller, S.C., & Berg, K.M. (2003). Successful aging and reciprocity among older adults in assisted living settings. In Poon, L.W., Gueldner, S.H., & Sprouse, B.M. (2003). *Successful aging and adaptation with chronic diseases.* NY: Springer publishing company.

Raschick, M., & Ingersoll-Dayton, B. (2004). The costs and rewards of caregiving among aging spouses and adult children. *Family Relations, 53*(3). Pp 317-325.

Richardson, V.E. (1999). Women and retirement. *Journal of Women & Aging, 11*(2/3). Pp. 49-66.

Robertson, J.F. (1995). Grandparenting in an era of rapid change. In Blieszner, R. & Bedford, V.H. (eds.), *Handbook on aging and employment.* Westport, CT: Greenwood.

Robinson, J. P. and Godbey, G. (1999) *Time for Life: the Surprising Ways Americans Use their Time*. University Park, PA: Penn State University Press

Rosenstone, S.J. & Hansen, J.M. (1993). *Mobilization, participation, and democracy in America.* NY: Macmillan.

Rotolo, T., & Wilson, J. (2004). What happened to the "long civic generation"? Explaining cohort differences in volunteerism. *Social Forces, 82*(3). Pp. 1091-1121.

Rowe, J.W. & Kahn, R.L. (1998). *Successful aging.* N.Y.: Pantheon Books. Ch. 1: Breaking down the myths of aging; Ch. 11: Productivity in old age.

Samwick, A.A. (1998). New evidence on pensions, social security, and the timing of retirement. *Journal of Public Economics, 70*(2). Pp. 207-236

Sands, R.G., Goldberg-Glen, R., & Thornton, P.L. (2005). Factors associated with the positive well-being of grandparents caring for their grandchildren. *Journal of Gerontological Social Work, 45*(4), pp.65-82.

Scharlach, A.E., Gustavson, K., & Dal Santo, T.S. (2007). Assistance received by employed caregivers and their care recipients: Who helps care recipients when caregivers work full time? *The Gerontologist, 47*(6). Pp. 752-762.

Schlozman, K.L., Burns, N., & Verba, S. (1994). Gender and the pathways to participation: The role of resources. *The Journal of Politics, 56*(4). Pp. 963-990.

Schulz, R. & Beach, S.R. (1999). Caregiving as a risk factor for mortality: The caregiver health effects study. *Journal of the American Medial Association, 282*. Pp. 215-219

Schwartz, J., & Waldrop, J. (1992). The growing importance of grandparents. *American Demographics, 14*. pp. 10-11.

Sherraden, M. (1991). *Assets and the poor: A new American welfare policy.* Armonk, NY: M. E. Sharpe, Inc.

Sherraden, M., Morrow-Howell, N., Hinterlong, J., & Rozario, P. (2001). Productive aging: Theoretical choices and directions. In Morrow-Howell, N., Hinterlong, J. & Sherraden, M. (Eds.), *Productive aging: Concepts and challenges.* Baltimore: The Johns Hopkins University Press.

Smith, J.P. (1995). Racial and ethnic differences in wealth in the health and retirement study. *Journal of Human Resources, 30*. Pp. S158-183.

Spillman, B.C., & Pezzin, L.E. (2000). Potential and active family caregivers: Changing networks and the "sandwich generation." *The Millbank Quarterly, 78*. pp. 347-374.

St. Clair, P. Blake, D., Bugliari, D., Chien, S., Hayden, O., Hurd, M., Ilchuk, S., Kung, F-Y, Miu, A., Panis, C., Pantoja, P., Rastegar, A., Rohwedder, S., Roth, E., Carroll, J., Zissimopoulos, J. (2008). *RAND HRS data documentation, Version H.* RAND Center for the Study of Aging.

STATA technical support (2003). E-mail exchange in 10-29-2003.

Stoller, E.P., & Cutler, S.J. (1992). The impact of gender on configurations of care among elderly couples. *Research on Aging, 14*(3). Pp. 313-330.

Stoller, E.P., & Pugliesi, K.L. (1991). Size and effectiveness of informal helping networks: A panel study of older people in the community. *Journal of Health and Social Behavior, 32*(2). Pp. 180-191.

Stommel, M., Given, C.W., & Given, B.A. (1998). Racial differences in the division of labor between primary and secondary caregivers. *Research on Aging, 20.* pp. 199-217

Stone, R., Cafferata, G.L., & Sangl, J. (1987). Caregivers of the frail elderly: A national profile. *The Gerontologist, 27*. pp. 616-626.

Strawbridge, W.J., Wallhagen, M.I., Shema, S.J., & Kaplan, G.A. (1997). New burdens or more of the same? Comparing grandparent, spouse, and adult-child caregivers. *The Gerontologist, 37*(4). Pp. 505-510.

Tang, F. (2006). What resources are needed for volunteerism? A life course perspective. *The Journal of Applied Gerontology, 25*(5). Pp. 375-390.

Taylor, H., Bass, R., & Barnett, S. (1992). *Productive aging.* NY: Louis Harris and Associates.

Taylor, H., & Leitman, R. (1989). *Older Americans: The untapped labor source.* Program sponsored survey. NY: The Commonwealth Fund.

The Chronicle of Higher Education (1998, August, 28). *Almanac Issue, 64*(4). P.18.

Turner, J.A., & Doescher, T. (1996). Pensions and retirement. In Crown, W.H. (ed.), *Handbook on employment and the elderly*. Westport, CT: Greenwood Press.

Uhlenberg, P. (1992). Population aging and social policy. *Annual review of sociology, 18.* pp. 449-474.

U.S. Bureau of Census (1999). *Coresident grandparents and grandchildren* (Current Population Report, pp. 23-198). Washington DC: US GPO. Available on the Internet http://www.census.gov/

U.S. Bureau of Census (2005). *Enrollment of the Population 15 Years Old and Over, by School Type, Attendance Status, Control of School, Sex, Age, Race, and Hispanic Origin: October 2005*. Retrieved on December 5, 2006 from http://www.census.gov/population/www/socdemo/school/cps2005.html

Vanderhart, M.J. (2003). Labor supply of older men: Does Social Security matter? *Economic Inquiry, 41*(2). Pp. 250-263.

Verba, S., Schlozman, K.L., & Brady, H.E. (1995). *Voice and equality: Civic Voluntarism in American Politics.* Cambridge: Cambridge University Press.

Verba, S., Schlozman, K.L., Brady, H.E., & Nie, N.H. (1995). Race, ethnicity and political resources: Participation in the United States. *British Journal of Political Science, 23*(4). Pp. 453-497.

Volunteering in the United States (2005). US Bureau of Labor Statistics. Retrieved on April 07, 2006 from http://www.bls.gov/news.release/pdf/volun.pdf

Walker, A., & Taylor, P. (1993). Ageism versus productive aging: The challenge of age discrimination in the labor market. In Bass, S.A., Caro, F.G., & Chen, Y-P (eds.), *Achieving a productive aging society.* Westport, CY: Auburn House.

Walker, D.M. (2005). *Is Social Security's financial future in jeopardy?* Washington, DC: GAO. Retrieved on May 16, 2006 from http://www.gao.gov/cghome/centrist20050121/img3.html

Warburton, J., Le Brocque, R., & Rosenman, L. (1998). Older people – the reserve army of volunteers? An analysis of volunteerism among older Australians. *International Journal of Aging and Human Development, 46*. pp. 229-245.

Wargurton, J., & Terry, D.J. (2000). Volunteer decision making by older people: A test of a revised theory of planned behavior. *Basic and Applied Social Psychology, 22*(3). Pp. 245-257.

Weaver, D. (1994). The work and retirement decisions of older women: A literature review. *Social Security Bulletin, 57*. pp. 3-24.

Wise, D.A. (2005). Facing the age wave and economic policy: Fixing public pension systems with healthcare in the wings. *Fiscal Studies, 26*(1). Pp. 5-34.

Wolff, J.L. & Kasper, J.D. (2006). Caregivers of Frail Elders: Updating a National Profile. *The Gerontologist,* 46. Pp. 344-356.

Wolfinger, R.E., & Rosenstone, S.J. (1980). *Who votes?* New Haven: Yale University Press.

Wymer, W.W. (1999). Understanding volunteer markets: The case of senior volunteers. *Journal of Nonprofit & Public Sector Marketing, 6*(2/3). Pp. 1-23.

Wymer, W.W., Reicken, G., & Yavas, U. (1996). Determinants of volunteerism: A cross-disciplinary review and research agenda. *Journal of Nonprofit & Public Sector Marketing, 4*(4). Pp. 3-26.

Zafirovski, M. (2005). Social exchange theory under scrutiny: A positive critique of its economic-behaviorist formulations. *Electronic journal of sociology, 2005*. Retrieved on April 4, 2006 from http://www.sociology.org/content/2005/tier2/SETheory.pdf

Zedlewski, S.R., & Schaner, S.G. (2005). *Older adults' engagement should be recognized and encouraged.* Washington, DC: Urban Institute.

Zimmerman, L., Mitchell, B., Wister, A., & Gutman, G. (2000). Unanticipated consequences: A comparison of expected and actual retirement timing among older women. *Journal of Women & Aging, 12*(1/2). Pp. 109-128.