

FACTORS IN PRODUCTIVE AGING OF EAST ASIAN IMMIGRANTS IN THE UNITED  
STATES: AN EXPLORATORY STUDY OF PRODUCTIVE AGING ATTRIBUTES

by

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(Under the Direction of Larry G. Nackerud)

ABSTRACT

The increasing number of older East Asian immigrants in the United States calls for attention to their characteristics and needs. The concept of productive aging addresses the lives, challenges, and options available to East Asian immigrants in the United States. The purpose of this exploratory study is to apply the concept of productive aging to East Asian immigrants in the United States by analyzing a secondary dataset. This quantitative study examined the effects of immigration experiences and acculturation on productive activities, particularly paid work and caregiving for grandchildren among East Asian immigrants. In the 2006-2010 ACS PUMS dataset, older East Asian immigrants over 55 years of age ( $N = 30,846$ ) were selected in this study. The dependent variables were paid work and participation in productive activities; the independent variables were the length of immigration, attainment of citizenship, language preference, and arrival age in the United States. Socio-demographic variables were used as control variables. Multiple linear regression analysis and logistic regression were used to test the effects of immigration experiences and acculturation on paid work and participation in either paid work or caregiving for grandchildren or both.

The quantitative results provide evidence that immigration experiences and acculturation affect East Asian immigrants' productive activities. In particular, citizenship positively affected respondents' productive activities, and East Asian immigrants' length of immigration and arrival age in the United States presented negatively affected their participation in paid work. These findings demonstrate that the concept of productive aging reflects an aging population's activities and needs, as well as giving political and practical implications for the field of social work for this population. Future research needs to examine these issues to fully understand older East Asian immigrants' talents, challenges, immigration history and needs in depth.

**INDEX WORDS:** Productive aging, East Asian immigrants, International social work

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## CHAPTER 1

### INTRODUCTION

As the number of older people increases due to advances in health knowledge and medical technology, the United States is having and will continue to have an enormous burden: maintaining an income system, health care systems, and social services for older adults. There are 40 million people aged 65 and over in the United States and this population is projected to more than double by 2050 (Jacobsen, Kent, Lee, & Mather, 2011). By 2030, 21% of the US population will be in the 65 years plus age group (Choi & Dinse, 1998; Kerschner & Pegues, 1998; Ranzijn, 2002; Wheeler & Giunta, 2009). The “oldest old” population, age 85 and older, is currently 15 percent of the aging population 65 and older in the United States, but by 2050 at least 20 percent (19 million) of this population will be the oldest old (Jacobsen et al., 2011). Considering this demographic situation, the concept of productive aging can provide guidance to gerontologists in responding to older adults’ needs and in predicting the future of current younger populations based on the increase of the population.

Productive aging refers to an array of activities through which older people contribute to themselves, others and society (Hooyman & Kiyak, 2011; O'Reilly & Caro, 1995; Ranzijn, 2002). Previous studies (Baker, Cahalin, Gerst, & Burr, 2005; Dosman, Fast, Chapman, & Keating, 2006; Herzog & House, 1991; Hinterlong, Morrow-Howell, & Rozario, 2007; Kerschner & Pegues, 1998; Ranzijn, 2002) suggest that the concept of productive aging and productive activity have a positive effect on later life. For example, paid work as well as unpaid housework may prevent older adults from functional decline (Luoh & Herzog, 2002; Menec, 2003). Also, volunteering has a positive association with life expectancy (Luoh & Herzog, 2002; Musick,

Herzog, & House, 1999; Oman, Thoresen, & McMahon, 1999) and good health conditions in later life (Lum & Lightfoot, 2005; Morrow-Howell, Hinterlong, Rozario, & Tang, 2003; Musick & Wilson, 2003). In other words, engagement in specific productive activities is related to a healthy life (Glass, de Leon, Marottoli, & Berkman, 1999; Hinterlong et al., 2007).

There are empirical studies on specific races that focus on productive aging in specific nations such as Bangladesh (Cameron, Kabir, Khanam, Wahlin, & Streatfield, 2010), Canada (Victorino & Gauthier, 2005), Europe (Wahrendorf & Siegrist, 2010), Japan (Uesugi, 2010), and Taiwan (Yang, 2010). However, although the percentage of the older Asian population in the United States is predicted to be the second highest oldest race in 2050 (Vincent, Velkoff, & Bureau, 2010), there is little research on the activities associated with the concept of productive aging among Asian immigrants. Thus, this study explores the concept of productive aging among older East Asian immigrants in the United States by analyzing a secondary dataset, in particular, activities such as paid work and caregiving to grandchildren. According to the previous studies, the contribution of older adults to society is one of the most important factors associated with successful aging (Caro, Bass, & Chen, 1993; Herzog & House, 1991; Menec, 2003). Considering the positive effects of this concept and the important demographic trends such as the growing number of older immigrants in the United States (Burr, Gerst, Kwan, & Mutchler, 2008), it is necessary to think of older Asian immigrants' productive aging from the perspective of international social work.

Productive aging can be considered as a concept in that it signifies a class of activities through which older people contribute to society (Armstrong, Gleitman, & Gleitman, 1983). Conceptualization based on observation of a particular existence can often be a guide to a conceptual model, which is an essential tool humans can employ to solve problems (Yucong &

Cruz, 2011). In this study, the concept of productive aging is employed to understand the factors of productivity among older East Asian immigrants in the United States. This concept also contributes to the development of a conceptual model suggesting ideal solutions to respond to the needs of the aging population.

After this introduction, the next section explains why older East Asian immigrants are the focus of the study and why international social work should target this population. The remainder of the chapter outlines the statement of problem, the purpose of study, research questions, and the assumptions underlying this study.

### Older East Asian Immigrants in the United States

This section attempts to answer the question of why it is important to understand the experience of older East Asian immigrants in the United States. The proportion of Asian older adults in the older U.S. population is increasing and the rate of this increasing percentage will be much higher than that of non-Hispanic White older adults in the next 50 years (Han, Kim, Lee, Pistulka, & Kim, 2007; Mui & Kang, 2006). These demographic phenomena suggest an increase in the demand for services provided by social workers to older Asian Americans and older immigrants from Asia (Witkin, 1999).

The history of Asian immigration to the United States is complex. In the mid-1800s local governments in the United States recruited Chinese workers (Segal, 2002). Japanese laborers emigrated in earnest between the late nineteenth and early twentieth centuries and the influx of the majority of Korean immigrants to the United States began in the early 1950s (Segal, 2002). After the 1965 amendment setting immigration quotas for Asians at percentages similar to those for immigrants from Europe, more workers emigrated from Asia to the United States (Segal,

2002). Asian immigrants mainly consisted of Chinese and Japanese, living in Hawaii and on the west coast before the 1970s. However, major Asian groups including Filipinos, Indians, Koreans, and Vietnamese came in increasing numbers to the United States, and their settlements had broadened from the west coast to the Atlantic sea-board states by the end of the 20th century (Kitano & Daniels, 2001). Now, the US census data show that there are approximately 15 million Asian immigrants living in the country (United States Census, 2011a). The foreign-born Asian population increased from 9% in 1960 to 25% in 2000 (Han, Choi, Kim, Lee, & Kim, 2008), and net immigration is predicted to be highest for this group among racial groups in the United States through the year 2050 (Hampton, 2004).

The history of Asian immigrants to this country also includes a change of perception toward the Asian population. In the past, East Asian immigrants were disadvantaged (Wu, 2003). *Yellow Peril* is a term reflecting an aversive reaction to Asian immigrants since Whites considered Asian immigrants as an economic threat to White Americans and as being intent on destroying the majority society (Berdahl & Ji, 2012). The Yellow Peril targeted East Asians, especially the Chinese and Japanese, who had immigrated to the United States from the late nineteenth century to the mid-twenty century (Wu, 2003). In the 1960s, the notion of the Yellow Peril was revised and changed into that of the model minority, and East Asian immigrants were used to support the belief in meritocracy, which means that anyone who works hard can succeed (Berdahl & Ji, 2012). Also, the positive images of East Asian immigrants, such as professional and hardworking, emerged with the increased number of trained workers from East Asia in the 1960s. They also began to take on the ways of the host culture (Berdahl & Ji, 2012). According to the 2010 U.S. Census and Statistics Canada, immigrants from East Asia represent one of the largest noticeable minority groups in North America (Berdahl & Ji, 2012).

Although there are East Asian immigrants who have had opportunities to become acculturated for over a hundred years, they are still structurally separated from the dominant society in terms of marital, identificational and civic patterns (Kitano & Daniels, 2001). The process of adapting to a new cultural environment can be very challenging for immigrants, and empirical studies report that acculturative stress is common among immigrants, refugees, and ethnic groups (Kalavar & Van Willigen, 2005). During the process of acculturation, immigrants may be vulnerable to acculturative stress because of language barriers, cultural shock, and discrepancies between expectations and achievement after immigration (Han et al., 2007). All older adults are required to adapt to the multiple aspects of aging in terms of physical, psychological, and social aging (Hoyer & Roodin, 2009). Older immigrants and ethnic minorities face an even more complicated process of adjustment to aging because of acculturative stress (Kauh, 1999). It is not easy for older adults who have spent most of their life in their culture to adapt to a new societal structure (Kalavar & Van Willigen, 2005). For example, foreign-born children are more easily acculturated than are foreign-born older adults because children can be socialized in terms of language over a relatively short period of time (Schrauf, 2009). Therefore, it may be important to distinguish between people who aged in the United States and people who arrived at older ages in this country.

### International Social Work with Older Asian Immigrants

This section considers the older Asian immigrants as clients in the perspective of international social work and introduces their needs and the social work practice related to the population in the United States. In the field of social work practice, social issues are internationalized, and social workers have met social problems resulting from complex international forces (Xu, 2006). Although there is no consensus about the definition of



*international social work*, the term represents a broad perspective and includes these practice categories: internationally related domestic practice and advocacy, professional exchange, international practice, and international policy development and advocacy (Healy, 2008; Xu, 2006). With the increasing number and proportion of older adults around the world (Witkin, 1999), social work practice for older East Asian immigrants in this country can be an important issue of international practice in the world. A social worker's awareness of cultural diversity is critical in the global setting (Healy, 2008). It is also important in understanding older adults' hesitancy or embarrassment in using public services, and in developing strategies for serving clients effectively (Trang, 2008).

The 2011 Census shows that there are 5.2 million Asian-born people 65 years and older in the United States (United States Census Bureau, 2011a). The population confronts difficulties in terms of adapting to the new culture (Choi & Thomas, 2009). Because acculturation occurs in diverse categories including physical, biological, cultural, and social relationships (Berry, Kim, Minde, & Mok, 1987), multiple aspects of older Asian Americans' needs should be addressed. The bottom line in the process of acculturation is that unique cultural beliefs exist. For example, filial piety is one of the most important representative beliefs among older Asian Americans (Kong, Deatrack, & Evans, 2010; Lo & Russell, 2007). The norm of filial piety, which is deeply rooted in East Asian culture, can be regarded as a factor causing the acculturative stress among older East Asian immigrants. Although Asian Americans are diverse in terms of economic status and education, they generally prefer to take care of their older adults themselves than to use services outside of kinship (Mui & Kang, 2006). Asian family culture is strongly influenced by the Confucian ethic of filial piety which says that children's obligations include respecting and caring for older adults (Lo & Russell, 2007). Respect for older adults based on filial piety has

resulted from the emphasis on social relationships and intergenerational hierarchy (Ingersoll-Dayton & Saengtienchai, 1999). The practice of filial piety exists in the daily lives of Asian immigrants and includes joint living arrangements of adult children and older adults and financial support and practical help between older parents and adult children (Lo & Russell, 2007). Family caregiving for older immigrants reflects the culture of filial piety and the caregiving burden. To be specific, in Korean culture, the traditional Confucian-based norm of filial piety highlights taking care of parents as a form of respect, even after immigration (Kong, Deatric & Evans, 2010). Chinese immigrants also have the burden of caregiving since Chinese tradition does not exempt immigrants from the responsibility of taking care of older parents (Lai, 2007). However, current filial piety reflects intergenerational gaps among Asian immigrants. The traditional value of filial piety is becoming westernized, and this change has an impact on the cultural practice of caring for older adults and relationships between generations (Lo & Russell, 2007). Nevertheless, family support is a main resource for older Asian immigrants and filial piety is still an important value in terms of emotional and instrumental support from family members (Mui & Kang, 2006). In addition, older East Asian immigrants have needs that are different from those of other ethnic and age groups and it is time to consider their unique needs and how to help them age well (Choi & Thomas, 2009). Filial piety influences the overall lifestyle including living arrangements, social relationships, economic status, and health status (Hooyman & Kiyak, 2011). Thus, it may be important for practitioners and frontline workers to be aware of filial piety based on Confucianism in order to understand the unique needs of older Asian Americans and to serve them effectively.

One important trend of social work practice with older immigrants is to understand how change in social welfare policy has an impact on their lives. For example, the 1996 welfare

reform decreased the proportion of older immigrants eligible for federal programs in the United States (Gerst, 2009). These federal programs have created policies that have a negative economic impact on older immigrants -including older Asian immigrants- just when their financial needs have increased (Lee & Yoon, 2011). In addition, since the traditional value of filial piety and respect for older adults has changed in East Asia (Tam & Neysmith, 2006), older Asian immigrants will also experience new family cultures and social relationships (Mui, 2000). Thus, older Asian immigrants will have diverse needs and the role of frontier workers for this population will be more important in the future with the rapid growth of the population.

Emerging programs addressing these diverse needs are already in place. Elderly Nutrition Programs (ENPs), programs implemented by the Administration on Aging (AoA) in the United States, are designed to give the older ethnic minorities benefits that improve their well-being; those are an example of the cultural awareness of a service provider. This program indicates that there are differences in diet, eating habits, and food preferences in each cultural group (Gordon, 2006). However, feeling shame about using social services such as a nursing home is not uncommon among East Asian immigrants (Lai, 2007), and this situation reveals cultural characteristics (Mui & Kang, 2006). Although external barriers, such as a lack of bilingual workers, prevent older East Asian immigrants from using social services, their negative attitudes toward these services are connected to filial piety (Liu, 2003). As mentioned before, family support is one of the most important resources for East Asians (Mui & Kang, 2006). Even after immigration, older East Asian immigrants and their adult children tend to feel too ashamed to use and seek these services, which are outside of their family (Kong, Deatric & Evans, 2010; Trang, 2008). Considering how rapidly this population is growing, frontline workers need to develop strategies to improve accessibility and acceptability of the social service programs for

older East Asian immigrants and their families (Choi, 2002). When practitioners and policy makers are sensitive to issues of cultural diversity and try to understand these challenges, older Asian Americans and immigrants can adapt more easily to the current society and contribute to social integration.

### The Concept of Productive Aging Approach to Social Work with East Asian Immigrants

This section highlights the concept of productive aging and its implication for older East Asian immigrants in the perspective of social work. Although there has been no consensus about a formal definition of *productive aging*, the concept of productive aging can be described as performing productive activities in later life (Dosman et al., 2006). From the broader perspective, the definition of *productive activity* includes both labor market activities and other activities that produce valuable goods and services not traded in the market (Dosman et al., 2006). Productive activities from the broadest perspective of productive aging include all contributions of older adults to their own wellbeing and to others such as family, friends, neighbors and community (Hooyman & Kiyak, 2011; Ranzijn, 2002). Bass and Caro (2001) suggest a conceptual model of productive aging covering multiple aspects such as environmental, situational, individual, social policy, and outcomes and explain how these various aspects are interconnected. In this model, environmental factors such as economy, culture, and cohort affect situational factors such as roles, responsibilities, family situation, and health status. Situational factors and individual factors such as motivation, habits, race, and genetic profile have reciprocal relationships with one another. Those three sectors influence the levels of productive aging and social policies related to productive activities (Bass & Caro, 2001).

When social workers in practice have older East Asian immigrants as their main clients, they need to know about their clients' lives, cultures, and their native country's policies and traditions in order to develop strategies for improving their clients' well-being (Healy, 2008).

Based on the Bass and Caro (2001) model above, productive activities among older adults reflect cultural and ethnic issues. It might be meaningful to study productive aging among older East Asian immigrants since their productive activities reflect their culture and needs and provide political and practical implications for international social work for the population. For example, after the 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) banning Social Security Income (SSI) for elderly immigrants, the number of employed older immigrant men increased and the number of retired older immigrant men decreased (Kaushal, 2010). Currently, although their volunteer experiences help integrate them into the host culture, immigrants are less likely than native born citizens to volunteer (Handy & Greenspan, 2009). Caregiving demands especially affect East Asian immigrants. Ethnic and cultural issues in caring for older adults among East Asian immigrants are important factors in determining caregiving roles, role strains, and health outcomes (Soskolne, Halevy-Levin, & Cohen, 2007). Understanding the concept of family is crucial if one hopes to explain caregiving for East Asian immigrants. The norm of filial piety requires adult children to care for their parents (Lo & Russell, 2007), and the primary caregivers for older Asian immigrants are women, especially daughters-in-law (Spitzer, Neufeld, Harrison, Hughes, & Stewart, 2003).

#### Statement of the Problem

Although the United States maintains the ideology that people have the potential to be successful if they have the chance to develop their latent competencies regardless of their challenging environments, older adults have generally been regarded as needy and fragile (Carr, 2009). Currently the average life expectancy at birth is 78.1 years which is much longer in comparison with the 47 years of average life expectancy in 1900 in the United States (Hooyman & Kiyak, 2011). Thus, maintaining a good quality of life in old age has become an important

issue at both the individual and social levels (Carr, 2009). The problem is that the United States may not be ready to welcome an aging society. For example, although the current eligible age to receive full benefits from Social Security is 66 and the expected age to retire is 65, these ages will increase in the future (Rogers et al., 2011) in order to reduce social expenditures. In addition, if older adults cannot live independently, generational conflicts could occur between the younger generation and the dependent older generation. Thus, the attention to productivity (Carr, 2009) indicates the necessity of research on the concept of productive aging since it is important to understand older adults' lives and challenges to maximize productivity among older adults (Rogers et al., 2011).

According to Sugihara, Sugisawa, Shibata, and Harada (2008), most of the previous scholarly works on productive aging focused on older adults in western culture. Since the Asian population in this country is growing (Han et al., 2007; Mui & Kang, 2006), U.S. citizens need to consider this population as a part of U.S. society. Consequently, it is important to pay attention to their needs. Considering the demographic trends of the older population and Asian immigrants in the United States, the boom in the older Asian population has serious implications for the nation's policy, health, and economy (Han et al., 2007; Mui & Kang, 2006; Witkin, 1999). Social workers and policy makers cannot solve the older Asian immigrants' unique and complicated needs unless they think about the available opportunities to live well and independently. This study on the concept of productive aging addresses the options and opportunities available to East Asian immigrants in the United States.

### Purpose of Study

The purpose of this research is to apply the concept of productive aging to East Asian immigrants in the United States through analyzing a secondary dataset, in particular the

productive activities of paid work and caregiving to grandchildren in the dataset. The research questions for this study include the following:

- 1) How does the immigration experience of older East Asian immigrants impact their productive activities?
- 2) How does the acculturation of older East Asian immigrants impact their productive activities?

The research questions include two major assumptions: (a) older East Asian immigrants have unique patterns of productive activities; (b) their characteristics of productive activities emerge from their immigration experiences and Eastern culture.

#### Significance of Study

This study has significance to individual East Asian immigrants, social workers, policy makers, and gerontologists. For individual immigrants from East Asia, they can realize how their cultural characteristics relate to productive activities and they can understand the association between their immigration experiences and productive aging. It may also increase East Asian immigrants' sense of optimistic aging and older adults' potential to contribute to their society. In addition, the concept of productive aging can enhance an individual's commitment to him/herself, family, and community. Furthermore, this study can promote cultural sensitivity for social workers and policy makers by examining the cultural characteristics and immigration experiences among older East Asian immigrants. Despite the increasing number of older East Asian immigrants, social workers and policy makers may not pay enough attention to their unique needs. This study can help transport the concept of productive aging into policy and practice arenas targeting East Asian immigrants in the United States. Lastly, the significance of this study for gerontologists is that it seeks to study the concept of productive aging of a specific

minority population. Gerontology has a relatively short history (Taylor & Bengtson, 2001), and productive aging is a relatively new area of gerontology. Although consensus about the empirical definition of every scientific concept is required (Fernandez-Ballesteros, 2011), the concept of productive aging is one scientific idea that lacks a universal definition (Walker & Maltby, 2012). Thus, this study can help establish a scientific concept as well as a theoretical and methodological background to guide future studies.

### Dissertation Chapters and Organization

Chapter 1 presented the foundation of the study, highlighting the growing number of Asian population in this country, the current international social work with the population, the statement of problem, purpose of study, and its significance. Chapter 2 will review the relevant literature on integrating the concept of productive aging with East Asian immigrants as well as the conceptual framework for this study. The concept of productive aging is dealt with by putting forth its definition, theories, and limitations. The section of this chapter on East Asian immigrants introduces their demographics, immigration policy, and the current trends of international social work practice. Based on the first two parts of this chapter, the conceptual framework of productive aging among older East Asian immigrants is developed. Chapter 3 presents research questions, research design, and data analysis strategies. Details of the research findings are illustrated in Chapter 4, and Chapter 5 summarizes the results of this study and present implications, conclusions, and recommendations for future studies.



## CHAPTER 2

### REVIEW OF THE LITERATURE

This chapter consists of three parts. The first part of this chapter begins with introducing the general issues of aging, explaining the origin of the concept of productive aging, and then clarifying the concept by comparing it to similar concepts. The next section in the first part introduces some productive activities, suggests three theories related to the concept, and then looks at some issues related to it. The second part of this chapter includes the literature about East Asian immigrants, especially their immigration history and demographics, as well as social policy and international social work related to the population. Last, a conceptual framework is provided for studying productive aging among older East Asian immigrants.

The literature search consisted of books and peer-reviewed journals at the University of Georgia Libraries and included specific topics such as gerontology, immigration, international social work and Asian culture. In order to get the journals, keyword searches in *Google Scholar* and in *the University of Georgia Libraries System Catalog* were used. The literature search was mainly conducted between April and October 2012. The main keywords used in searching the online websites as follows: productive aging, productive activities, role theory, life span theory, social exchange theory, East Asian, immigration, Asian Americans, Korean immigrants, Chinese immigrants, Japanese immigrants and international social work.

## Part I: Concept of Productive Aging

This part begins with overviews of the general knowledge about aging, and then explains the concept of productive aging including its origin, similar concepts, productive activities, related theories, the ideal of an aging society, and its critiques.

### Overview of Aging

This section introduces general aging studies based on the multiple dimensions of aging. An essential issue of this section is how to define “old.” Gerontologists believe that older populations vary but generally divide the population into three chronological age groups: the “young-old,” who are from 65 to 74 years old; the “old-old,” who are from 75 to 84 years old; and the “oldest-old,” who are 85 years old and older (Hooyman & Kiyak, 2011). Since aging occurs in multiple dimensions, such as chronological, biological, psychological, and social dimensions, it is not easy to judge whether a person is old or not through one particular dimension (Hoyer & Roodin, 2009).

Biologically, aging occurs in a wide range of cells, tissues, and organs (Holliday, 2004). Human beings experience physiological changes with age; fat increases and tissues decrease with aging, and sensory functions, including seeing, hearing, touching, tasting, and smelling gradually decline (Hooyman & Kiyak, 2011). There are theories explaining biological aging, including wear and tear, cellular aging, immunological theory, cross-linkage, free radical or oxidative stress, and mitochondrial DNA mutation theory (Hooyman & Kiyak, 2011). Although the process of aging is common to all animals, human beings have more unique aspects than other primates in terms of longevity (Kirkwood, 2005). For example, the grandmother hypothesis suggests one unique aspect of human beings. According to the hypothesis, prolonged survival

beyond fertility and long life expectancy are distinctive characteristics of human beings (Herndon, 2010); a grandmother's role in taking care of her grandchildren allows her daughter to stay healthy and more fertile. In addition, this role explains a longer lifespan for post-menopausal women taking care of grandchildren (Herndon, 2010). Health is one of the most important issues in later life (Hooyman & Kiyak, 2011) and gerontologists study exercise, physical functioning, and diseases to help in maintaining health in later life. Especially, *Epidemiology*, which is an academic field focusing on the distribution and determinants of health related states or events in specified populations, is necessary for characterizing chronic disease, geriatric syndromes, pathological processes, and disability in later life (Satariano, 2006).

Psychological aging is related to adaptive abilities in diverse environments (Hoyer & Roodin, 2009). Personality is related to the individual adaptation process and is a representative example of multidimensional characteristics in terms of psychological aging (Hoyer & Roodin, 2009). Personality is a person's unique characteristics represented by behavior, thought, and emotion (Hoyer & Roodin, 2009). According to the five-factor model of personality, personal traits are classified within five categories: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Hoyer & Roodin, 2009; Löckenhoff, Sutin, Ferrucci, & Costa, 2008; Stephan, 2009). With aging, neuroticism, extraversion, and openness to experience slightly decline, but agreeableness slightly increases and conscientiousness slightly increases at age 60 and then, slightly decreases (Hoyer & Roodin, 2006). Although old age worsens health risks in the perspective of biological age, an older adult who has high levels of extraversion and openness to experience can have lower health risks and be psychologically and socially younger than his or her chronological age (Löckenhoff et al., 2008). This is because older adults with

these personalities tend to receive higher levels of social support and are ready to cope with age-related challenges (Löckenhoff et al., 2008; Stephan, 2009).

The social dimension of aging includes personal relationships. With aging, interpersonal relationship is also changed. The essential dimension of personal relationships in later life contains love, marriage, passion, intimacy, and friendship (Hoyer & Roodin, 2008). Generally, social networks positively affect health status and personal development. Loss of spouse and friends shrink social networks in later life and older adults can experience loneliness and the absence of social relationships (Hoyer & Roodin, 2008). The loss of social ties and loneliness can cause social isolation often harming well-being and health in later life (Hooyman & Kiyak, 2011). For example, adjustment to loss of a spouse or partner is one of the most challenging life events (Hoyer & Roodin, 2008). In contrast, older adults earn new intergenerational relationships through grandparenting. Being a grandparent is meaningful to some older adults in that they can feel extensions of themselves and family into the future and they can have opportunities to extend social ties (Hoyer & Roodin, 2008). In addition, although societal expectations about sexual activity in later life do not support older adults' sexual relationships, they still have the capacity to enjoy sexual activities in intimate relationships (Hooyman & Kiyak, 2011). As a result, practitioners should try to understand how older adults interact with others and support their own choices and behaviors (Hooyman & Kiyak, 2011; Hoyer & Roodin, 2008).

In the social dimension of aging, the financial status of the elderly in the United States is an important issue. The economic position of the aging population in the United States is recognized in two ways: (1) in consideration of Social Security, pensions, and savings as the three elements of economic resources and, (2) in consideration of earnings and public assistance with the prior three elements as the five sources of income for the elderly (Matcha, 2007). Social

Security is the most important economic resource for older minorities in the United States; 84 percent of older African Americans, 77 percent of older Hispanic, and 69 percent of older Asians depend on Social Security for all or some of their monthly income in the United States (AARP Public Policy Institute, 2012). For older adults, aged 65 or older, with relatively stable economic statuses, pensions are also a main source of income (Matcha, 2007). Earnings are the smallest economic source for the poor in contrast to the wealthiest (Matcha, 2007). According to the National Council on Aging (2013, March 30), nearly one in three among those aged 60 and older is economically insecure in the United States; one-third of older adults have no money left over or are in debt by the end of month. Thus, with the aging of baby boomers, Social Security costs will increase; without any change in the tax rate, the level of benefits, the cap, or the age for full Social Security benefits, the United States cannot maintain the Social Security trust fund (Matcha, 2007).

These dimensions of aging are related to each other. Caregiving issues, including long term care and end-of life care, are examples which show the multiple dimensions of aging. In the biological dimension, with aging, older adults are exposed to chronic diseases, such as Alzheimer's, dementia, and Parkinson's; their bodily functions decline due to reverse capacities, which impede healthy living in the fourth age formed in a successful later life (Hoyer & Roodin, 2009; Gilleard & Higgs, 2010). This biological aging is connected with the social dimension of aging. For example, there are about seven million older adults who require long-term care due to chronic illnesses in this country (Harris, 2007). Although the older an individual becomes the more important care giving is to them, caregiving at the system level is still inadequate and informal supports in families are main sources of caregiving in later life (Hoyer & Roodin, 2009). Social facilities, including nursing homes and assisted living facilities, also play an important

role in taking care of vulnerable older adults. Although nursing homes are major providers of care, assisted living facilities' growth rate has surpassed nursing homes since they offer a setting which is less costly and more home-like than nursing homes (Harris, 2007). About one million residents live in over 36,000 assisted living facilities and there are about 18,000 nursing homes in the United States serving 1.5 million patients (Harris, 2007). While suffering from chronic disease, in the dimension of psychological aging, older adults' coping strategies may depend on individual personality and social support (Löckenhoff et al., 2008; Stephan, 2009).

### Origin of the Concept of Productive Aging

The concept of productive aging has a long history (Murphy, 2011). This section summarizes the history of the concept of productive aging. With industrialization, people have questioned older adults' competencies for productive aging from the late 19th century to the mid-20th century in the United States (Morrow-Howeel, Hinterlong, & Sherraden, 2001). During the Great Depression, some policy makers and employers thought that older workers should be retired (Morrow-Howeel, Hinterlong, & Sherraden, 2001). However, in the 1950s, Wilma Donahue's vocational rehabilitation services for older adults acknowledged the values of non-paid work and assets of age in the United States (Morrow-Howeel, Hinterlong, & Sherraden, 2001). During the early 1970s to the later part of the 1980s, U. S. governments and businesses promoted an 'early exit' trend in most Western labor markets as a solution to social and economic problems such as high youth unemployment and the cost burdens associated with an aging workforce (Rudman & Molke, 2009). Even when the notion of productive aging appeared in Robert Butler's *Why Survive?* in 1975, the concept of productive aging was considered a concept used in novels, not in reality (Morrow-Howell, Hinterlong, & Sherraden, 2001).

With the socio-political developments of the 1980s, attention began to be given to the concept of productive aging in the United States (Walker, 2006). Although chronological age was a key factor of performance before the 1980s in this country, researchers had begun to consider aging as the process of human development over the life course (Walker, 2006), and they realized that the aging process was very individualistic, since there are huge differences in individual age and subsequence performances in physical and mental activities (Caro, Bass, & Chen, 1993). Since the 1980s, activities besides leisure and family obligations after older adults' traditional retirement have also formally become recognized (Walker, 2006). This attention and resources for maintaining a good quality of life in later years and the growing cost of the older population led to changes in the United States social policies targeting this population's needs (Carr, 2009). Socio-economic issues, such as the potential labor shortage, retirement of baby boomers, and increases in the dependency rate, are promoting a 'productive aging' trend, not an 'early exit' tendency, around the world (Rudman & Molke, 2009). These socio-economic issues were raised at the G8 Summit in Denver in June 1997, and since then, they have become a main part of social policy plans in the developed countries, such as prohibiting age discrimination in labor force participation, in the European Union (EU) and the Organisation for Economic Co-operation and Development (OECD) (Walker, 2006). Recently, the concept of productive aging has created an interest among scholars, practitioners, and older adults themselves (Bass & Caro, 2001; Hooyman & Kiyak, 2011; Morrow-Howe, Hinterlong, & Sherraden, 2001).

#### Comparisons with Other Concepts

This section deals with the terms related to the optimistic perspective of aging in order to clarify the concept of productive aging. With the growing number of older populations, an "apocalyptic demography" scenario, which means economic and social catastrophe, has been

raised (Martinson & Halpern, 2011). At the same time, gerontologists are paying attention to a series of “positive aging” models emphasizing optimistic images of old age (Martinson & Halpern, 2011). Research and literature in the field of gerontology have focused on negative rather than positive dimensions of aging, but recent empirical studies about the variability of the ways of aging and the plasticity of aging reflect a new trend, arguing the necessity of much more research emphasizing the positive aspects of aging (Fernandez-Ballesteros, 2011). The optimistic perspectives of aging are described by several terms in the scientific literature: healthy, successful, optimal, vital, productive, active, positive and aging well (Fernandez-Ballesteros, 2011). Since each positive aging term shows a unique perspective toward the older population, it is meaningful to compare productive aging, and the other terms representing optimistic aging such as successful aging, normative aging and active aging, so that we can clarify the concept of productive aging (Caro, Bass, & Chen, 1993).

There has been no consensus about the definition of productive aging. The concept of productive aging can generally be explained as an alternative view of the aged dominated by dependency and frailty, without a clear definition (Caro, Bass, & Chen, 1993). In other words, in contrast to the negative image of older adults as dependent unproductive members of society, the perspective of productive aging underlines older adults’ contributions to the family, community, and society (Jung, Gruenewald, Seeman, & Sarkisian, 2010). Productivity is considered an individual or collective creation of products or services over a given unit of time in economics (Herzog & House, 1991) and people are typically supposed to consider paid work with productivity (Hooyman & Kiyak, 2011). However, because the concept of productive aging has originated from the exploration of the potential of older adults, productivity of this concept includes nearly all daily activities of older adults (Caro, Bass, & Chen, 1993). Robert Butler, the



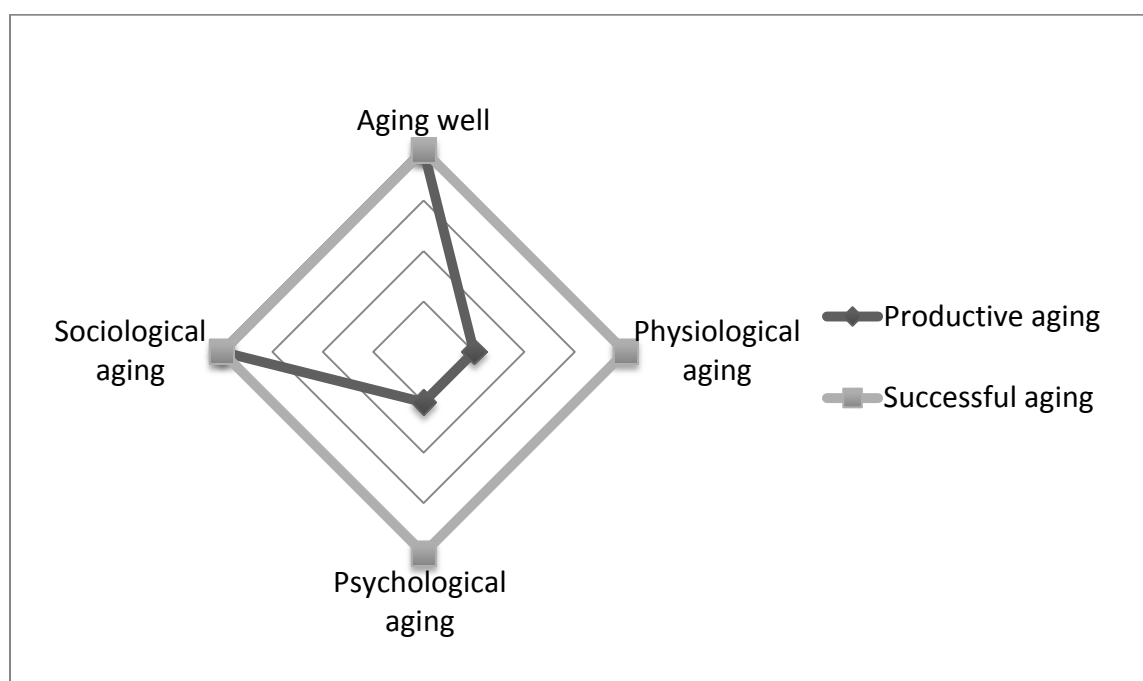
person who coined the phrase “productive aging”, believed that aging can be predictable and progressive in the biological or biomedical perspective, and it can affect socioeconomic conditions at the society level, since the age structure in a society is a function of birth rates, death rates, and migration (Butler, 1985).

The concept of successful aging was introduced by John W. Rowe and Robert L. Kahn who pursued individual physiological and psychological capacity and performance (Caro, Bass, & Chen, 1993). The emergence of the concept of successful aging in the early 1960s was defined as the maintenance of activity patterns and values in later life (Walker, 2006). *Successful aging* is a representative concept showing positive aspects of aging since the components of successful aging reflect broad aspects of aging: low risk of disease and disability (illness avoidance); high physical and mental functional (functioning); and active engagement with life (Ng et al., 2011; Walker, 2006). A universal definition of the concept of successful aging is a relative concept and it can be interpreted in diverse ways according to the cultural context, norms, and values (Willcox, Willcox, Sokolovsky, & Sakihara, 2007). Depp and Jeste (2006) studied 29 definitions of successful aging and found that 26 of the 29 definitions include illness avoidance and physical functioning, but less than half of the definitions include cognitive functioning and social/productive functioning. Also, the paradigm of Rowe and Khan does not explain important aging experiences such as existential domains of late-life adaptation, differences between young-old and the oldest old, gender differences, ethnic differences, life events and coping strategies, and differences between researchers’ and older adults’ views of successful aging (Willcox et al., 2007). The subsequent concepts of optimistic aging would make up for and specify the experiences of successful aging. For instance, the concept of productive aging has a different focus than the concept of successful aging (Hooyman, 2005). Although successful aging includes

some activities that overlapping with productive activities (Ng et al., 2011), the concept of successful aging emphasizes individuals' physiological and psychological capacity, but the concept of productive aging emphasizes older adults' contribution to society and specifies ways to expand such opportunities (Hooyman, 2005).

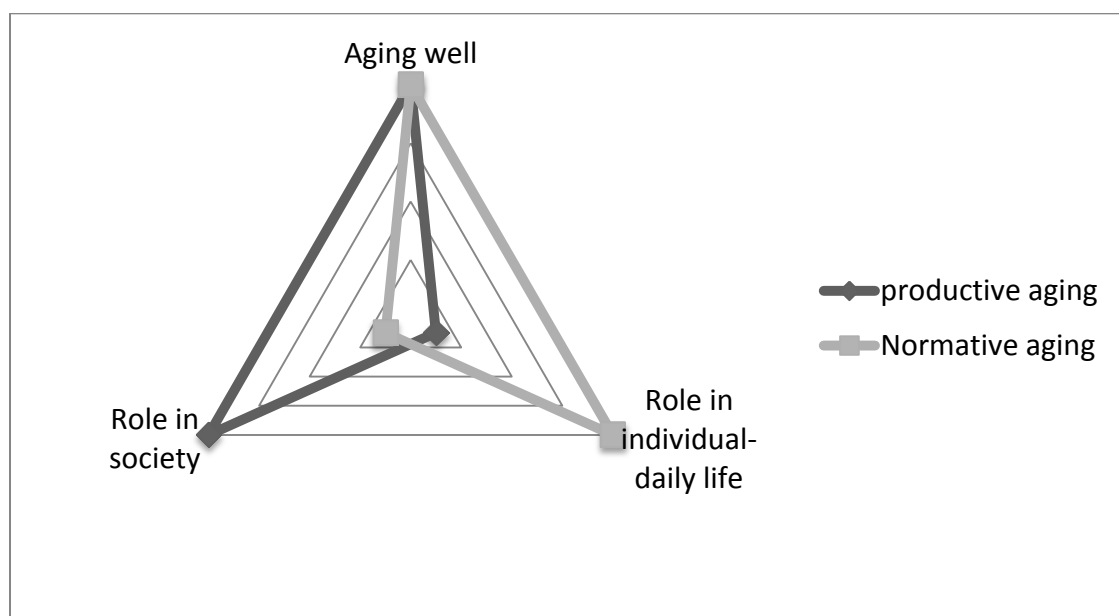
According to the perspective of normative aging, every person experiences changes in physical abilities, living arrangements, retirement, loss of relatives and friends, and so on in the process of normative aging and these changes influence daily life in old age (Beckenhauer & Armstrong, 2009). The perspective of normative aging is similar to the perspective of successful aging in that it seeks to describe typical and usual development and life experiences in later life (Caro, Bass, & Chen, 1993). However, the concept of normative aging is distinguished from the concept of productive aging since the concept of normative aging focuses on the individual rather than the role the individual plays in society (Caro, Bass, & Chen, 1993). The comparison between the two concepts is presented in Figure 1.

Figure 1: Productive aging and successful aging



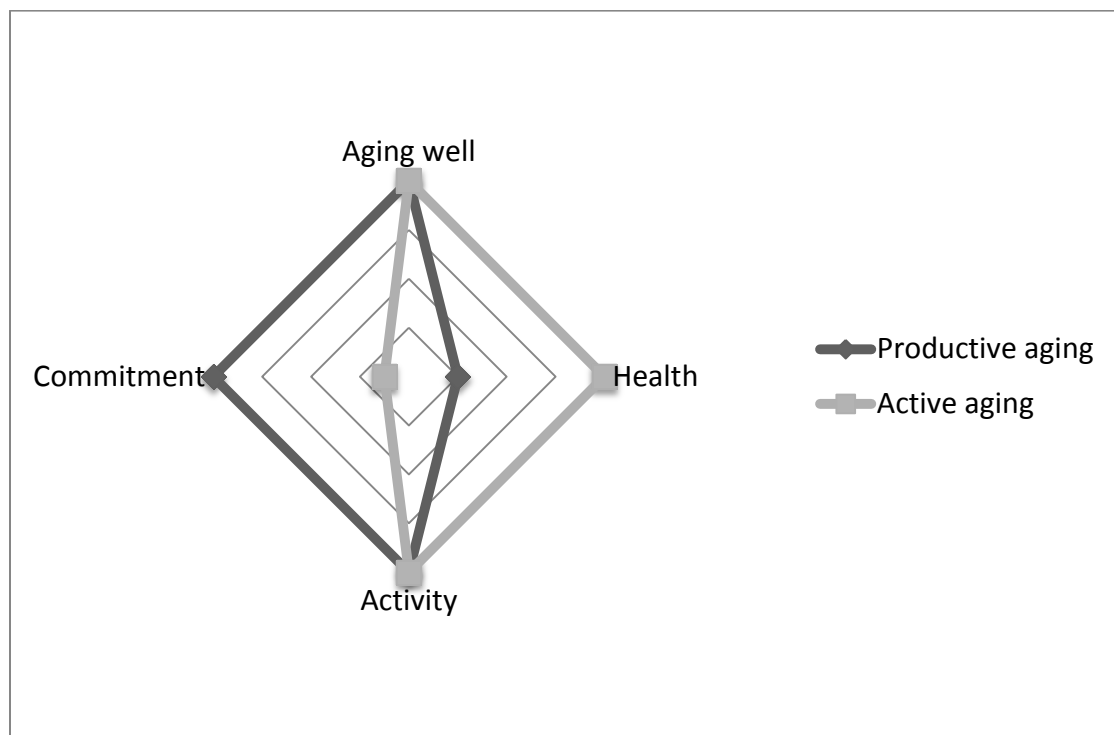
*Active aging*, a concept emphasizing the connection between health and aging under the influence of World Health Organization (WHO), was raised by policy makers concerned with the following five issues: (1) work-force ageing, (2) the growth of early exit, (3) social protection system sustainability, (4) changing business needs, and (5) the political pressure for equal treatment in the 1990s (Walker, 2006). The concept of active aging is especially valuable for developing positive research and policy actions on aging (Kendig, 2004). Although both concepts of active aging and productive aging pay attention to older adults' capacities, independence, and productivity in society, the concept of active aging has focused on a broader range of activities than productive aging has (Walker, 2006). For example, the concept of productive aging focuses narrowly on productivity and commitments among older adults, but the concept of active aging includes the main element of productive aging with a strong emphasis on quality of life and mental and physical well-being (Walker, 2006). The comparison between the two concepts is presented in Figure 2.

Figure 2: Productive aging and normative aging



Successful aging, normative aging, active aging, and productive aging are key concepts identifying the potentiality of older adults and hold many of the same ideal themes of aging such as activity, mobility, and independence (Martinson & Halpern, 2011). Put simply, these optimal concepts about aging share the umbrella term of “aging well” (Fernandez-Ballesteros, 2011). These concepts support optimistic aspects of aging, but each concept has different focuses. The concept of successful aging suggests comprehensive elements for aging well, the concept of normative aging focuses on individual life-long development, the concept of active aging connects activity and health (Walker & Maltby, 2012), and the concept of productive aging values the skills, expertise, and experiences of older adults (Yang, 2010). In sum, the concept of productive aging initially originated from the concept of successful aging, like other terms, but unlike other terms, it now explains specific areas related to older adults’ commitments to their society (Cameron et al., 2010). These optimistic concepts are meaningful since their goal is in accord with the goal of gerontologists, enhancing the quality of life in aging (Carr, 2009; Ranzijn, 2002). In particular, the concept of productive aging is practical since it matches with the goal of policies in developed countries to maintain the competencies of older adults and or develop their potentiality (Ranzijn, 2002). Figure 3 shows the differences and common goal of the two concepts.

Figure 3: Productive aging and active aging



#### Specification of Productive Aging: Productive Activities

This section specifies the concept of productive aging through productive activities including paid work, volunteering, caregiving, informal assistance, and education in later life. According to Baltes's two-component model, activities are divided as two broad categories of daily activities: (1) regenerative activities such as eating and resting, which have to be carried out for physiological survival and (2) discretionary activities, which are optional and based on personal abilities and preferences (Klumb & Maier, 2007). Klumb (2004) classifies discretionary activities as either productive or consumptive based on whether an activity is performed for its outcomes without loss of any beneficial effect or not. In the broader perspective, productive activity includes both labor market activities and other activities that produce valuable goods and services not traded in the market (Dosman et al., 2006). The broader perspective of productive

activities considers all contributions of older adults to their own wellbeing and to the wellbeing of others such as family, neighbors, friends, and community as valuable activities (Hooyman & Kiyak, 2011; Ranzijn, 2002). To be specific, a productive activity cannot only be paid work including regular and irregular labor force activity but also unpaid work including unpaid volunteer services, caregiving, and providing of informal social assistance at home, in the community, or in society (Baker et al., 2005; Morrow-Howell et al., 2003). Bass and Caro (2001) also regard education or training that strengthens older adults' commitments to work, volunteering, caregiving, or informal assistance to the family and friends as a productive activity.

Since the concept of productive aging and the range of productive activity are broad, it is important for researchers to conceptualize and operationalize the term. For instance, because housework is typically accomplished in isolation from other persons, some researchers do not include housework in these categories (Baker et al., 2005). However, activities such as yard work and home repair are more likely to place persons outside of their homes and in an environment where they may interact with friends and neighbors (Baker et al., 2005). From a broad perspective based on initial conceptualization of productive aging, there are several general categories of productive activities among older adults: paid work, volunteering, caregiving, education for personal growth and informal assistance behavior for society and themselves.

#### *Paid work.*

Paid work among older adults is an extensive research topic of the categories of productive activities (Caro, Bass, & Chen, 1993). Recently, nearly half of the U.S. workforce has been comprised of workers forty-five years or older and this trend has occurred in other developed countries because of the aging of baby boomers, lower birthrate during the last third of the twentieth century, and economic recession discouraging early retirement (Kanfer &

Ackerman, 2004). Although gerontologists agree active engagement declines in the later life, empirical research supports continued active engagement among older adults (Fortuijn et al., 2006). Accumulating research has shown there is no relationship between chronological age and job performance; this research has also projected manpower shortages in select job sectors in the future (Kanfer & Ackerman, 2004).

However, negative stereotypes toward older adults block some older workforce activities in the labor market (Fortuijn et al., 2006). The well-documented old age stereotype evokes negative images of fragility, slowness, irritability, dependence, withdrawal, vagueness, and stagnation, and older adults have been regarded as a non-population as a result (Braithwaite, 1986). People exposed to negative stereotypes of aging believe that older adults are just an enormous burden on maintaining an income system, health care systems, and social services (Choi & Dinse, 1998). In workplaces, older workers are often considered resistant to change, cautious, slow, physically weaker than younger workers, and uninterested in technology (Kanfer & Ackerman, 2004). Also, older adults pursuing age discrimination cases in the workplace have fewer legal protections than adults who face gender or race discrimination (Cruikshank, 2009). However, there are studies proving that age-related changes in motivational variables play an important role in successful work results for middle-aged and older workers (Kanfer & Ackerman, 2004). In addition, intergenerational conflicts from limited work opportunities and cultural lag, which explains slow societal responses to the current aging society, limit older adults' productive participation in paid employment (Caro, Bass, & Chen, 1993). Even if an older adult enters a workplace, it may not be easy for her/him to adapt to the work environment because of unfriendly building structures such as steep stairs or bad lighting and unfriendly

atmospheres that place them in low-paying or generally undesirable roles (Gonzales & Morrow-Howell, 2009).

### Volunteering.

Volunteering in later life is regarded as one of the main productive activities since it is a type of positive contribution to society (Warburton, Paynter, & Petriwskyj, 2007). *Volunteering* is “to perform unpaid service for a church, educational organization, political group or labor union, senior citizen group or related organization, or any other local organization, including the United Fund, hospitals, and the like (Hinterlong, Morrow-Howell, & Rozario, 2007, p.355).” Volunteering originated from religious and secular traditions for forming new communities in the period of settlement of the North American continent (Bass & Cargo, 2001). Although services once provided by families, such as caring for the older adults, are now commercialized, the need for volunteer services still remains because of the persistence of nonprofit organization, and people in poverty who cannot affordable to use paid services (Bass & Cargo, 2001). Older adults were considered as dependent and deserving recipients of the volunteering services until recently (Carr, 2009). However, volunteering is an alternative way for healthy older adults to keep productive during their post-retirement years using resources such as time, affluence, or talent (Bass & Cargo, 2001; Carr, 2009; Wahrendorf & Siegrist, 2010). There are older adults who have been volunteering since they were in their 40s and 50s, especially those of higher socioeconomic status, and their volunteer activities increase after retirement (Piercy, Cheek, & Teemant, 2011). The social need for older volunteers has grown with reduced funding for service organizations. Moreover, baby boomers’ retirement will increase the social needs of skilled individuals to volunteer, and older adults also have the desire to contribute to other’s wellbeing (Piercy Cheek, & Teemant, 2011).



Studies of volunteering in later life show that older adult volunteers have good physical and mental health, positive aspects toward their life and society, a stronger sense of purpose in life, higher levels of satisfaction, motivation to learn and help others, and better capacities to cope with personal trauma (Martinson & Halpern, 2011; Piercy Cheek, & Teemant, 2011). However, there are barriers to volunteering among older adults. For example, although older adults want to volunteer, they may not have enough knowledge about opportunities to do so (Gonzales & Morrow-Howell, 2009). There are not enough volunteer programs of managers that consider older adults' abilities (Gonzales & Morrow-Howell, 2009). Thus, it is important to help older adults obtain resources and opportunities to participate in volunteering in order to personally and socially benefit from this engagement (Carr, 2009).

### Caregiving.

Caregiving is one of the late-life productive engagements since it is one of the major non-market based activities among older adults (Hinterlong, 2008). The informal contributions of older adults are mainly conducted in family settings (Bass & Cago, 2001). Roughly one in five adults between ages of 35 and 64 assists family members with disabilities or diseases, and demand for informal care is growing in the United States (Pavalko & Henderson, 2006). Healthy older adults can be an alternative way to meet the demand. In general, a healthy spouse cares for his or her frail spouse and older adults assist members of other generations (Treas & Mazumdar, 2004). The most frequent caregiving pattern is between spouses or partners (Hooyman & Kiyak, 2011). Since females have longer life expectancy than males, wives are more likely to provide caregiving for their husbands with chronic disease (Hooyman & Kiyak, 2011). Thus, husbands expect to receive care from their wives, but wives may seek care from their adult children (Tsien & Ng, 2010). Older caregivers spend an average of 40 to 60 hours per week assisting in almost

all the daily life of their spouses/partners (Hooyman & Kiyak, 2011). However, older spousal caregivers are more vulnerable to physical and emotional stresses than younger caregivers since the older caregivers experience aging-related changes, physical limitations or reduced income (Hooyman & Kiyak, 2011). Although there is no conclusive study showing the effects of caregiving on physical health, several studies demonstrate that caregivers have more depressive symptoms and poorer immune function (Pavalko & Henderson, 2006).

In addition, the number of grandparents caring for their grandchildren has been increasing, and this is another form of caregiving among older adults (Hoyer & Roodin, 2009). Grandparents make significant commitments to informal child care and may take responsibility for their grandchildren's emotional, practical, and financial support (Ozanne, 2010) when adult children cannot take care of their grandchildren because of being in the military, going through divorce, having child abuse problems, drug use problems, and being incarcerated (Hoyer & Roodin, 2009). Of course, there are grandparents who have recently retired and are physically and financially able to play the role of caregiver for grandchildren (Dow & Meyer, 2010). However, grandparents rearing grandchildren often suffer from increased health problems, psychological distress, social isolation, and financial crisis (Dow & Meyer, 2010). Although older carers can be exposed to stressful situations, their informal caregiving saves social cost. For example, the value of unpaid and informal care per year is almost the same as the amount spent on the total National Health Service in United Kingdom (Dow & Meyer, 2010).

#### Informal assistance behavior.

With caregiving, informal assistance is another prevalent form of non-market based contributions to society among older adults (Hinterlong, 2008). Generally, informal assistance behavior includes activities such as housework, shopping, home maintenance and any other

services to themselves, others, and communities (Baker et al., 2005; Dosman et al., 2006; Hinterlong et al., 2007). Informal assistance provided by family and friends is sometimes used for describing caregiving (Ozanne, 2010). Hinterlong et al. (2007) define informal assistance as “efforts to provide transportation to, shop for, or run errands for others; help with housework, or with the upkeep of others’ homes, cars or ‘other things’; provide childcare without pay, or do any other things to help (p. 355).” Although informal social assistance has received less attention than caregiving, it is prevalent and plays an important role in the later life (Hinterlong et al., 2007). In addition, the activity reduces depression symptoms among older adults but not younger adults (Hinterlong et al., 2007).

### Career related education

Bass and Caro (2001) include career-related education as one of the productive activities. Ozanne (2010) shows older adults have a chance to enhance their life through lifelong learning, sometimes referred to as flexible life scheduling, age-integrated vs. age-segregated learning, or age deregulation of education and the life course. Lifelong learning makes it possible for people to enter and re-enter formal learning at any time throughout their lives and learn continuously (Ozanne, 2010). Continuous learning of new technologies and knowledge is necessary to continue to do productive activities efficiently in the workplace (Ozanne, 2010). Thus, if the purpose of learning is to seek jobs or to offer a service, older adults can produce social and personal value through learning activities (Bass & Caro, 2001). However, there is a controversy about whether personal enrichment through learning is a productive activity or not. This is because productive aging does not include all kinds of activities such as personal enrichment and leisure activities and this is one of the points that divides productive aging from successful aging (Hooyman, 2005).

### Theories of the Concept of Productive Aging

Theory integrates knowledge by summarizing empirical findings and connects these findings with abstract concepts (Taylor & Bengtson, 2001). Also, theory is essential in explaining the causes of phenomena and predicting the phenomena (Taylor & Bengtson, 2001). Witkin and Gottschalk (1988) emphasize the condition of good theory as the following: theory should be explicitly critical, recognize that humans are active agents, explain the life experiences of the clients, and promote social justice. It is important to establish a good theoretical background of gerontology by accumulating many findings for understanding and improving multiple aspects of aging (Taylor & Bengtson, 2001). Although research of productive aging reflects a lack of theory in the field of gerontology, there are theories supporting the concept of productive aging such as role theory, activity theory, disengagement theory, social exchange theory, and continuity or life course perspectives (Hooyman, 2005; Taylor & Bengtson, 2001). The concept of productive aging may provide a theoretical model to help understand aging and offer clues of a grand theory in gerontology (Taylor & Bengtson, 2001). This next part focuses on role theory, life span theory, and social exchange theory provide the theoretical background of the productive aging concept in older Asian immigrants in the United States. Knowledge about these three theories including assumption and key concepts are illustrated, and then the general strengths and weaknesses of each theory are critiqued.

#### Role theory.

Role theory is related to one of the earliest attempts to understand individual adaptation to aging (Hooyman & Kiyak, 2011). According to this theory, every person acts his or her role with reference to expectations in social locations. This theory assumes life is a series of sequentially defined roles (Rhee, 1985). Role, position, and expectation are the main ingredients

to explain role theory. Expectations are considered by most role theorists as an essential component for predicting social behavior (Thomas & Biddle, 1966).

Thomas and Biddle (1966) suggest the major principles of role theory including terms for partitioning *persons*, *behaviors*, and *sets of persons and behaviors*. Each term can be specified by describing the sub-terms. In this theory, a *person* can be an actor, target, ego, other, subject or object, depending on the context (Thomas & Biddle, 1966). For example, when a person is engaged in interaction with others, he is an *actor*. An ego is a person related to someone under discussion (Thomas & Biddle, 1966). The person can be another when he is not the main object of inquiry, but one in a relationship to whom that someone behaves (Thomas & Biddle, 1966). Partitioning *behaviors* consist of expectation, norm, performance, and sanction. In role theory, *expectation* is a concept held about a behavior likely to be exhibited by a person. There are different expectations for people's behavior depending on their age (Thomas & Biddle, 1966; Hooyman, 2005). For instance, many behaviors depend on social *expectations* about when to enter school, get a job, have a family, and retire (Hooyman, 2005). *Norm* is also a standard held for the behavior of a person or group and describes a behavior pattern likely to be exhibited by a person or group (Biddle & Thomas, 1996). Age-norms assume age-related abilities. Limitations related to performances are role behaviors or goal-directed behaviors (Biddle & Thomas, 1996; Hooyman & Kiyak, 2011). *Sanction* is a behavior by an actor for rewarding or punishing another which is contingent upon conformity to the other to norms or rules (Biddle & Thomas, 1996).

*Sets of persons and behaviors* in the theory are divided by concepts such as position, role, status, accuracy, conformity, role conflict, and specialization (Biddle & Thomas, 1996). *Position* is a designated location in the structure of a social system and illustrates occupation (Biddle & Thomas, 1996). The most common definition of *role* is the set of prescriptions defining what the

behavior of a position member has to be (Biddle & Thomas, 1996). *Status* is related to power, prestige, or wealth. Social position and *accuracy* is an agreement between an event and a description of it (Biddle & Thomas, 1996). *Conformity* occurs when there is a correspondence between behavior and prescriptions for it or between individual behavior and behavior patterns evinced by a group. *Role conflicts* are inconsistent prescriptions held by a person for himself or by one or more others, and actors feel unease (Biddle & Thomas, 1996). People are supposed to learn about how to deal with role gains, role losses, role discontinuity, and role exit with socialization (Hooyman & Kiyak, 2011).

Doing one role well is important because life is a series of sequentially defined roles and a role affects all other roles. There are two competing perspectives considering the impact of multiple performances on the individual: role enhancement and role strain (Hinterlong et al., 2007). Since the role enhancement hypothesis considers concurrent performance of multiple roles as a factor improving someone's well-being, a role is a source of power, prestige, privilege, status, and emotional gratification (Hinterlong et al., 2007). Roles allow the individual access to important resources which can reduce stressors and enhance well-being (Hinterlong et al., 2007). When roles are allotted well by others or a society, an individual can adjust to the demand of a role (Sieber, 1974). Another way to reduce role stressors is by providing many buffers against failure in the instrumental domains of action (Sieber, 1974). In this case, the psychological and social benefits of buffering may be enough to offset the strains caused by role conflicts or overload (Hinterlong et al., 2007). If accumulating resources through multiple roles creates further consequences and gives an actor rewards, he/she would become more valuable to others in the role-set (Sieber, 1974). Also, role accumulation may enhance one's self-gratification since he can feel the sense of being appreciated or needed by diverse role partners (Sieber, 1974).

In contrast, the role strain hypothesis predicts that obligations of one role can have a negative effect on a person's well-being because it reduces opportunities to undertake other roles (Hinterlong et al., 2007). There are four types or sources of role strain (Goode, 1960). First, even if the role demands of a person are not difficult, he/she has to do this role at particular times and places (Goode, 1960). Also, all persons participate in many different role relationships, and each role has somewhat different obligations. Among these, it is possible that contradictory performances can be required. Conflicts of time, place, and resources take place (Goode, 1960). Third, since each role relationship commonly demands several activities or responses, there may be inconsistencies again (Goode, 1960). Lastly, since many role relationships add up to a role-set, the role of one person is connected with another person's role and he/she is likely to face role obligations and conflicts (Goode, 1960). According to this perspective, failure to meet role demands causes stress or loss of status which is harmful to an individual. When new roles are added with high demands, it may bring about strain (Hinterlong et al., 2007).

Role theory is useful to explain the process by which social structures affect individuals (Cavanaugh, 1999). For example, since the societal division of labor creates gender roles, expectations, and norms, people tend to occupy different and specific roles according to gender roles (Diekmann & Schneider, 2010). Also, this theory provides critiques about how well individuals adapt to their society. For instance, individuals experience age norms of appropriate behaviors at any particular age, and we can determine how well an individual accepts role changes and adapts to aging according to the assumptions from age norms (Hooyman & Kiyak, 2011).

However, role theory focuses on specific roles that are partly self-defined and does not cover individual diversity (Cavanaugh, 1999). Role theory can bring about negative stereotypes

since it restricts individual capacities based on fragmentary characteristics such as chronological age, race, gender, social class, and health status (Hooyman, 2005). Not every behavior can be explained by the theory because it focuses on relationships and systems in a society. Individual needs can be caused by psychological or physical problems regardless of individual role. For example, there are few positive role models about older adults, and the media and public realm reflect this situation. The media and the public realms have tended to focus on positive aspects of youth and emphasize youthful appearance (Hooyman & Kiyak, 2011). The age normative expectations limit competencies of older adults and would cause the stereotype that a person of a given age ought to do certain roles (Hooyman, 2005; Hooyman & Kiyak, 2011). The roles of older adults who belong to ethnic minorities or have disabilities would be considered as dependent roles even though such adults can be independent regardless of age, social status, and health status (Hooyman & Kiyak, 2011).

### *Life-span theory.*

The roots of the life-span theory are found in life-span developmental psychology. Before the emergence of the concept of life-long development, before developmental psychologists such as Freud, Piaget, and Erikson proposed a cumulative view of human development, the focus was only on a limited part of the life span such as infancy or childhood (Baltes, Reese, & Lipsitt, 1980). That trend has changed over the past 40 to 50 years as researchers have been interested in adult development (Staudinger & Bluck, 2001). In the 1970s, Glen Elder Jr. suggested that development is a lifelong, dynamic process of interaction and Paul B. Baltes added new concepts such as multidirectionality, losses/gains, and plasticity to life-span developmental psychology (Hendry & Kloep, 2002).



Baltes and his colleagues (1980) described four major assumptions of life-span developmental psychology. The first assumption is *development is a life-long process* which refers to behavior change processes. It is a continuing process, developing over the entire life span, and not limited to any particular age (Baltes, 1987; Baltes, Reese, & Lipsitt, 1980). This assumption rejects the traditional developmental perspective which focuses on childhood. Instead, the assumption covers both quantitative and qualitative development in terms of timing, direction, and order, regardless of any life stage from fetus to later life (Baltes, 1987). The second and third assumption state *Development is multidimensional and multidirectional*. Multidimensional and multidirectional are the key concepts in explaining aspects of plurality in the course of development (Baltes, 1987). In the view of this assumption, human beings develop in multiple areas such as the physical, cognitive, personal, social domains, spiritual or career (Baltes, 1987). The fourth assumption adds *Development is multidetermined* which is combined with other assumptions (Baltes, 1987). People can experience similar changes because of different origins and similar changes at different ages with different causes (Abeles, 1987). These four assumptions focus on multiple and life-long development (Abeles, 1987).

Also, Baltes (1987) redefined the four assumptions into seven concepts: *Life-span developmental, multidirectionality, development as gain/loss, plasticity, historical embeddedness, contextualism as paradigm, and field of development as multidisciplinary*. *Development as gain/loss* is also a main concept in life-span theory in that development is not simply a cumulative accumulation of more capacities and characteristics (Sugarman, 2001). Rather, development is composed of continuous gain (growth) and loss (decline) (Sugarman, 2001). *Plasticity* is distinguished from multidirectionality in that it focuses on the potential to change within the individual (Sugarman, 2001). *Historical embeddedness* shows that

development is culturally and historically embedded (Sugarman, 2001). Individual development depends on sociocultural conditions (Baltes, 1987). *Contextualism as paradigm* reflects development resulting from interaction between the individual and environment, and includes the three developmental influences in the next paragraph (Baltes, 1987). Life-span development is a *multidisciplinary field of study* with scholars in fields such as anthropology, history, sociology, social psychology, and biology (Sugarman, 2001).

Based on the preceding four assumptions, Baltes, Reese and Lipsitt (1980) have proposed three categories of developmental influences, *age-related; history-graded; and non-normative*. Baltes (1987) redefined these three categories under the concept *Contextualism as paradigm* and considered them to reflect the interaction between an individual and the environment. These categories assume temporal regularity in each stage. Individuals are exposed to these categories, which influence their development (Abeles, 1987). *Age-related influences* from both biological and social factors are those related to age. *History-graded influences* span large periods of historical time and affect the occurrence of age-graded influences. *Non-normative influences*, however, are not easily predictable in terms of their occurrence, patterning, and sequencing (Abeles, 1987). Baltes, Reese and Lipsitt (1980) expect that age-related influences might have a primary peak in childhood and a secondary peak in old age. In contrast, history-graded influence is the highest in adolescence. Non-normative influence, the only linear influence, grows stronger as humans get older (Baltes, Reese, & Lipsitt, 1980).

Three life-span models based on life-span theory, *the dual-process model*, *the Selection, Optimization, and Compensation (SOC) model*, and *the life-span theory of control (OPS)*, share basic assumptions about development and have the common goal of explaining optimal development in order to understand the balance of gains and losses through life (Boerner & Jopp,

2007). *Dual-process model* includes the assimilative mode and the accommodative mode (Boerner & Jopp, 2007). The assimilative mode reflects the continuous effort to modify life circumstances, and the accommodative mode explains individual goals and preferences for being flexibly adjusted to situational constraints or limitations (Boerner & Jopp, 2007). In the *SOC model*, Selection offers direction to development as a person specifies his goals. Optimization pursues achieve higher levels of functioning (Boerner & Jopp, 2007). To achieve the goals, a person begins to use Compensation as a substitute means (Boerner & Jopp, 2007). According to the *SOC* model, successful development occurs when desirable gains are maximized and losses related to undesirable goals or outcomes are minimized (Cavanaugh, 1999). The *OPS model* explains the way to master continuous developmental changes in its potential for control (Boerner & Jopp, 2007). In the life-span theory of control, primary control relates to changing the external environment through behaviors and secondary control is concerned with the adaptation of the self (Heckhausen & Schulz, 1995).

Life-span theory has stimulated the growth of a comprehensive view toward life-long development. As mentioned, life-span theory is multidisciplinary and studied in diverse fields such as psychology, sociology, economics, and gerontology (Sugarman, 2001). The theory can be applied in clinical settings, communities, and educational psychology, and in the study of life histories and structures in sociology. It is also useful to understand the labor market and the allocation of time and goods in economics (Baltes, Reese, & Lipsitt, 1980). Before the life-span theory, the concept of development might have been hard to apply in later life. Although the older population has increased in the United States, the “elderly” stereotype is resistant to change and continues to include the notion of the elderly as dependent (Braithwaite, 1986; Cuddy, Norton, & Fiske, 2005). Some people regard the older population as an enormous burden on

maintaining an income system, health care system and social services (Choi & Dinse, 1998). Should older adults depend on the younger generation in the 21st century? Should they be a minority in society? How can they spend their late-life well? The life-span theory provides a theoretical background to get answers to these questions.

However, the life-span theory has limitations. Baltes (1987) pointed to the lack of theoretical specificity of the theory. Although there are models based on the theory and the models compensate for the limitations, there are not enough specific standards to measure the key concepts of the theory. How can human beings estimate multidirectional, multidimensional or multidetermined changes? What is the range of gain/loss in the whole life? The lack of testability of the theory has caused a lack of empirical research. Also, the concept of life-long development cannot be applied in biological processes of aging over the life span.

#### Social exchange theory.

According to social exchange theory, people seek rewards and avoid costly behaviors through status, relationships, and emotional states to maximize their benefits (Miller & Bermudez, 2004). In this theory, there are six types of exchange resources such as love, status, information, money, goods, and services (Cropanzano & Mitchell, 2005). This theory focuses on interpersonal interactions from an exchange perspective in which social costs and benefits are traded in relationships under normative rules and agreements (Di Domenico, Tracey, & Haugh, 2009). The social exchange theory is influenced by Homans (1961) with his psychological-behaviorist ideas and by Blau (1964) with his socio-economic perspective (Di Domenico et al., 2009). Social exchange theory is derived from economic cost-benefit models of social

participation (Hooyman & Kiyak, 2011) and is different from the traditional study of exchange in that social exchange theory focuses on person-environment relations (Emerson, 1987).

The assumptions of social exchange theory can be condensed into the following ideas (Miller & Bermudez, 2004). The first assumption is that *people attempt to increase the outcomes* they value such as reward and cost ratios (Call, Finch, Huck, & Kane, 1999; Miller & Bermudez, 2004). They behave to decrease outcomes they do not value (Call et al., 1999). Thus, *when costs are equal, people prefer alternatives maximizing rewards and minimizing costs* (Miller & Bermudez, 2004). In the social exchange theory, each individual has resources to interact with others, but the resources are not equal (Taylor & Bengtson, 2001). Thus, *people tend to be distressed when they find themselves in an inequitable relationship* (Miller & Bermudez, 2004). Also, *people continue mutual contingent exchange with partners over time* (Call et al., 1999). People try to keep exchange with others when their benefit exceeds the cost and they believe that something with equal value will be reciprocated (Taylor & Bengtson, 2001).

In social exchange theory, the concept of power is essential (Call et al., 1999). People expect to get power and greater benefits from an exchange relationship. Power appeals to exchange partners, and interdependencies between actors exist when the balance is maintained during a mutually beneficial exchange (Call et al., 1999). When actors try to achieve their goals by engaging in interactions, power relationships between actors prompt them to form strategic objectives to achieve their goals, and actors attempt to balance their exchange relationships (Di Domenico, Tracey, & Haugh, 2009). In addition, interdependence is regarded as a characteristic of social exchange instead of independence and dependence since a social exchange needs a bidirectional transaction, a mutual and complementary arrangement between actors (Cropanzano & Mitchell, 2005).

Appropriate reward and cost are important to maintain balance in a dyadic relationship (Raschick & Ingersoll-Dayton, 2004). Generally, rewards come from positive outcomes in relationships with a partner. Costs occur when an actor engages in a disliked status, interaction, and experience (Miller & Bermudez, 2004). People tend to compare their outcomes and profits with someone of similar age, life stage, and experiences and evaluate whether they deserve the rewards and costs given by the relationship or not (Miller & Bermudez, 2004). The comparison will be a criterion for choosing alternatives (Miller & Bermudez, 2004).

Rules and norms of exchange guide exchange processes and establish trusting, loyal, and mutual commitment in the relationship (Cropanzano & Mitchell, 2005). When an individual in a dyadic relationship holds resources with value, the norm of reciprocity is fundamental for interaction with the other and is the best known exchange rule (Cropanzano & Mitchell, 2005; Di Domenico et al., 2009). Reciprocity occurs in interdependence exchange and reflects cultural expectations (Cropanzano & Mitchell, 2005). Although reciprocity is a human universal, each individual values reciprocity to different degrees according to his or her cultural background (Cropanzano & Mitchell, 2005). Reciprocity can be regarded as a cultural mandate or a folk belief according to cultural characteristics (Cropanzano & Mitchell, 2005). Negotiated rules, which are more explicit and rewarding than is reciprocal exchange, may be useful to discuss tasks and responsibilities in close relationships (Cropanzano & Mitchell, 2005).

Social exchange theory offers a widespread view of how people interact within relationships and of how they behave outside of partnerships and groups (Miller & Bermudez, 2004). This theory can be used to analyze social interaction and activity in later life. In the perspective of social exchange, older adults experience changes in opportunity, structures, roles, and skills, and some of them have fewer resources and less power in their social relationships.

But most of them try to maintain reciprocity (Hooyman & Kiyak, 2011). Also, it is important to understand how older adults exchange social behavior with different ages and generations (Taylor & Bengtson, 2001). In addition, the pattern of exchange behaviors shows the shifting environment of older adults and interactions in social support networks including family members (Taylor & Bengtson, 2001).

However, social exchange theory does not cover how social structure affects exchanges and how gender forms personal behaviors in their relationships (Miller, & Bermdez, 2004). In addition, since this theory overlooks the fact that mutual exchange relationships can be more complex, better concealed, manipulated than what this theory assumes (Di Domenico, Tracey, & Haugh, 2009).

#### Issues Related to the Concept of Productive Aging

This section tries to determine whether or not the concept of productive aging can promote the ideal aging society.

##### *Productive aging as the ideal aging society*

Although the concept of productive aging has limitations, it has the potential for preparing an aging society. Since baby boomers began to retire, an aging population has become a significant trend in the United States (Butler, 1985). The growing number of this population raises the fears about social policy and the cost for supporting dependent older adults (Carr, 2009). To be specific, the total Medicare spending was 3.5 percent of the gross domestic product (GDP) in 2010 and it is projected to reach 6.4 percent of GDP by 2030 (Hooyman & Kiyak, 2011). However, the growing capability of older adults shows they can be productive in later life (Carr, 2009). For instance, baby boomers are willing to engage in new things and more optimistic than the prior generation (Jenkins, 2008). Baby boomers were raised in a flourishing

economy (Leiter, Jackson, & Shaughnessy, 2009) and they are more educated than the prior generation (Butler, 1985). Baby boomers also are eager to work (Butler, 1985); the American Association of Retired Persons (AARP) survey of 2,001 baby boomers shows 63 percent want to work at least part time after retirement and 5 percent never plan to retire (Jenkins, 2008). The concept of productive aging is useful to encourage older adults who are motivated but do not know how to contribute to society through using their talents and strengths (Rudman & Molke, 2009). According to the concept of successful aging, every activity is productive if it creates social values whether it is reimbursed or not (Willcox et al., 2007). While the allocation of time for household and leisure increases after retirement, older adults can engage in productive activities even after moving out of the labor force and substituting unpaid for paid work (Dosman et al., 2006). Human beings can get a glimpse of the ideal aging society from older adults who are willing to commit themselves to others since older adults have the potential to continue to make economically and socially valuable contributions to society (Dosman et al., 2006).

Empirical studies demonstrate that productive aging is necessary to develop the ideal aging society. Kaye, Butler, and Webster (2003) indicate a productive older adult can be self-actualizing and self-satisfied, and positively affect others and the environment based on the number of facts representing a productive older adult's life style in the United States. According to Jung, Gruenewald, Seeman, and Sarkisian (2010), volunteering and informal assistance are associated with relieving depression symptoms and volunteering especially reduces cumulative frailty among older adults. Wahrendorf, Knesebeck, and Siegrist (2006) argue that it is important to maintain the balance between commitments and rewards in order to get benefits through productive activities in later life (Yang, 2010).



The concept of productive aging meets intergenerational needs. Of course, productive aging can cause intergenerational conflicts in that the younger population competes with the healthy older population for limited job opportunities and supports the dependent older population (Bass & Caro, 2001). However, older adults can engage in various activities, not only paid but also unpaid such as volunteering, caring, and informal assistance for the social good (Carr, 2009). Furthermore, according to the concept of productive aging, older adults should not be devaluated as passive recipients of social services and targets of social policies, but should be valued in terms of shaping and participating in society (Tisen & NG, 2010).

### *Critiques of productive aging.*

The goal of this section is to consider some critiques about the concept of productive aging and to lay a foundation for the concept. There are criticisms of the concept of productive aging in that the term itself can lead to the undervaluing of older adults with low incomes and disabilities because of the term's emphasis on productivity (Bass & Caro, 2001; Cruikshank, 2009; Hooyman & Kiyak, 2011). According to the concept of productive aging, older but still productive older adults are good citizens and the ideal image of older citizens can raise ethical concerns in terms of overlooking the older adult's life history and past achievements (Martinson & Halpern, 2011). Also, the examples of programs and policies such as increasing the age of eligibility for pensions to prohibit early work exit (Rudman & Molke, 2009) seem to force older adults to work in order to save social costs regardless of their personal capacity. However, the concept of productive aging is not used to obligate older adults to perform, but to acknowledge older adults' capacities and to provide opportunities and incentives for those who want to act (Bass & Caro, 2001). Although the concept of successful aging emphasizes individual physiological and psychological performance in later life, the concept of productive aging is not

intended to require commitments to all older adults, and productive engagement depends on individual choice in later life (Hooyman, 2005). The concept of productive aging is used to encourage older adults who are willing to contribute to themselves or others to do productive activities (Dosman et al., 2006); the concept focuses on older people having a choice about how they engage with family, friends, community, and society (Llewellyn, Balandin, Dew, & McConnell, 2004).

Also, the positive effects of the concept of productive aging are still not conclusive. (Camerson et al, 2010). Some studies show that the concept of productive aging has the following positive aspects: maintaining physical and mental health and less functional impairment (Hinterlong et al., 2007; Rozario, Morrow-Howell, & Hinterlong, 2004); increasing financial independence and increasing social connectedness at workplace (Llewellyn et al., 2004); and higher self-perception to longevity (Mullee, Coleman, Briggs, Stevenson, & Turnbull, 2008). However, most of the results are from an association between productive activity and improved life, not from causal analysis (Camerson et al, 2010). In the study of Klumb and Maier (2007), there is no relationship between the amount time spent on productive activity and longevity. More studies proving the positive aspects of commitments in later life are required to argue the social and political implications of the concept of productive aging. Also, unless empirical research considers conceptual and methodological diversity, the concept of productive aging will remain extremely broad and abstract (Fernandez-Ballesteros, 2011).

There are reverse perspectives of the concept of productive aging toward the capabilities of the older population (Caro, Bass, & Chen, 1993). For example, economists define a productive person as one who creates products or services, and this definition excludes others who informally help their family members, friends and neighbors because it is hard to quantify

the value of informal assistance behaviors (Bambrick & Bonder, 2005). From the perspective of economics, productive aging may include unrealistic expectations for productive activities for older minority groups and women (Bass & Caro, 2001). However, as mentioned, older adults' commitments, even informal assistance behaviors, are valuable to their family, community, and themselves. If people do not begin to realize older adults' potential and productivity, the aging population will remain a burden in this country even after the current younger population has aged (Butler, 1985). The concept of productive aging makes an effort to convert our aging population from a burden to asset (Moody, 2001).

## Part II: Older East Asian Immigrants in the United States

This part presents the immigration history and demographics of East Asian immigrants. It also includes the social policies affecting immigrants in this country and, in particular, the role of international social work for older East Asian immigrants. Finally, it presents promising programs in terms of reflecting on East culture cultural sensitivity.

### Immigration History

This section summarizes the immigration history and trends of Chinese, Japanese, and Koreans' in the United States. Asian immigration began in the mid-1800s, and Asians' migration to this country increased greatly after the Immigration and Nationality Act of 1965, which resulted from the Civil Rights movements and post-WWII international relations and the abolishment of national origins quotas (Choi & Thomas, 2009; Yoo & Kim, 2010). Although the US immigration policy favored European immigrants before 1965, the Immigration Act of 1965 caused a massive influx of immigrants from Asia and Latin America (Scott, Lee, Lee, & Kim, 2006). Asians comprised one-third of total immigrants by the mid-1970s, and the number of

Asian increased to more than 43% of the total immigrants between the mid-1970s and mid-1984 (Yoo & Kim, 2010).

Among Asian Americans, Chinese is the largest ethnic group (Woodall et al., 2009) and has the longest history of migration to the United States, comprising more than 150 years (Hampton, 2004). Although emigration to the United States began in the 1840s, Chinese immigration was truly initiated in 1850 after the Opium Wars and rebellions (Segal, 2002). Chinese peasants may have already experienced coercive migration in their homelands and immigrated to seek their fortunes in other nations (Segal, 2002). At the beginning of the emigration to West, they were taken as slave laborers (Kitano & Daniels, 2001), but many other immigrants who traveled of their own volition to the United States could have relatively high wages (Segal, 2002). With the discovery of gold in California in 1848, Chinese laborers arrived in this country, and then the influx of Chinese merchants and shopkeepers increased between 1870 and 1990 (Segal, 2002), even though the anti-Chinese political movement in California was sparked by working-class agitation during 1870s (Kitano & Daniels, 2001). The major occupations of these Chinese immigrants were service workers and farm laborers (Segal, 2002). However, the Chinese Exclusion Act of 1882, which reflected anti-Chinese sentiment, was the social barrier terminating their immigration (Kitano & Daniels, 2001; Segal, 2002). Since the U.S. Congress abolished the Chinese Exclusion Act and passed the 1965 Reform Act, the majority of Chinese have legally arrived in the United States (Hampton, 2004; Hsueh, Hu, & Clarke-Ekong, 2008). Although Chinese immigrants had a higher educational level and skills after the 1965 Act, large numbers of Chinese workers were exploited by their bosses in the 1980s and 1990s (Kitano & Daniels, 2001).

The first Japanese emigrations occurred in 1868 and 1869 with the recruitment of 148 laborers to Hawaii and 40 Japanese to California to work on silk farms (Segal, 2002). Like the Chinese, most of the early Japanese immigrants to Hawaii were brought under semi-free conditions of indenture to labor in plantations (Kitano & Daniels, 2001). When the Japanese government allowed Hawaiian plantation owners to recruit contract laborers in 1884, the influx of Japanese immigrants to the United States had increased for at least a decade (Segal, 2002). Most of the Japanese immigrants were the second sons living in poverty, but unlike the Chinese emigrants, they were literate and arrived with more money than did Europeans during the late nineteenth and early twentieth centuries (Segal, 2002). Although there were almost 2,000 Japanese immigrants in the United States eight years after the Chinese Exclusion Act, this number had increased to over 72,000 by the 1910s (Segal, 2002). The wave of female immigration from Japan occurred because the United States and Japan signed the Gentlemen's Agreement which limited the emigration of laborers, but the families of Japanese men in the United States continued to immigrate (Segal, 2002). Since Asians were not really affected by the Gentlemen's Agreement except for the Japanese, the agreement influenced the ratio of Japanese immigrants in the United States (Kitano & R. Daniels, 2001). After the Ladies Agreement curtailing female immigration in 1920s and World War II, the large amount of Japanese immigration to the United States came to an end (Segal, 2002). During the post war period from 1945-1946 to 1970, Japanese immigrants reestablished their economic and social lives (Kitano & Daniels, 2001). Currently, the Japanese represent the smallest group of foreign-born residents of the total Asian American population, and professional emigrants, including students who plan to return to their country after completing their education, are prominent among Japanese immigrants (Segal, 2002).

Before the Korean War, the immigration to the United States from Korea was slight because of the national isolation policy in the 1800s and Japanese colonial rule between 1910 and 1945 (Segal, 2002). The major Korean emigration began in the early 1950s (Segal, 2002), and Korean immigrants have increased in the United States since the Immigration Act of 1965 (Son & Kim, 2006). There were 70,000 Korean Americans in 1970, and 800,000 in 1990, and currently over one million people with a Korean background reside in the United States (Scott et al., 2006). Pre-1965 emigration from Korea resulted from economic necessity, and the main reason for the post-1965 emigration from Korea was the proactive impetus enforced by the Korean government (Segal, 2002). Recently, Shim and Schwartz (2007) considered the rapid development in Korea, globalization, and the established foundation of a Korean sub-group within the United States as factors encouraging Koreans to emigrate to this country. Around 18% of the Asian American population is Korean, and the cumulative rate of Korean immigration has increased 42.4% between 1990 and 2000 (Shim & Schwartz, 2007). Most Korean immigrants are first-generation and most of them live in California, New York, and New Jersey (Ding et al., 2011). Since Korean immigration peaked in the mid-1980s, first-generation Korean immigrants are now approaching or beginning retirement (Yoo & Kim, 2010).

#### Demography among East Asian Immigrants

This section provides some demographic information of East Asian immigrants. Increasing international migration reflects globalization around the world (Ding et al., 2011). International migrants comprise about 3% of the world's and 20% of US population (Ding et al., 2011). Asian Americans are a group of the fastest growing population in North America (Choi & Thomas, 2009; Shim & Schwartz, 2007; Woodall et al., 2009). From 1990 to 2000, the total population increased 13%, but the Asian population grew by 72% and experienced the largest

increase compared to any other racial and ethnic groups in the United States because of immigration and birth rates (Hampton, 2004; Yoo & Kim, 2010). The US census data show that there are approximately 14.7 million Asians living in this country (United States Census Bureau, 2010), and 3.60 million Asians migrated from other countries into the United States in 2000 or later (United States Census Bureau, 2011a). The number of Asian Americans in the United States is predicted to more than triple from 11.9 million in 2000 to 34 million in 2050, when they will make up 9% of the residents in this country, as compared to 4.2% in 2000 (Han et al., 2008; Wong, Yoo, & Stewart, 2007).

East Asian groups, especially from China and Korea, are predicted to grow by more than 30% of Asian ethnic groups (Wong, Yoo, & Stewart, 2007). East Asians from China, Japan, and Korea are included in the top four Asian Americans group (Lee, 2007); one-fourth of all Asian immigrants are from China (Hsueh et al., 2008). Immigrants from Asia are comprised of diverse ethnic groups with a variety of different languages, religion, customs, food, socioeconomic levels, and social values (Barry, 2002; Hampton, 2004). However, East Asian immigrants from China, Japan, and Korea share similar cultures and an East Asian identity including a Confucian heritage (Barry, 2002). Around 60% of Asians in the United States are foreign born (Hampton, 2004; Woodall et al., 2009), and there are many older East Asians born in their native country (Wong et al., 2007). The percentage of older minorities is predicted to grow by more than 500% by 2050 from 4.3 million persons in 1990, and older East Asian immigrants among these minorities are one of the fast growing immigrant groups in the United States (Lee, 2007). Also, immigrants 60 years old and older from China, who are first-generation Asian Americans or Asian immigrants, preserve their native culture and face more cultural and social issues with aging (Hampton, 2004).

### Social Policy and Immigrants

This section displays the role of social policy for immigrants in the United States. In the 1960s, major social programs for older adults emerged: Medicare, Medicaid, the Older Americans Act (OAA), Supplemental Security Income (SSI), the Social Security Amendments, Section 202 Housing, and Title XX social services legislation (Hooyman & Kiyak, 2011). Although older age-based programs were reduced in the 1980s and 1990s with the stereotype of “greedy geezers,” baby boomers began to have a large demographic weight, and because their needs are more visible and urgent, they have become the target populations of social programs in the United States (Hooyman & Kiyak, 2011; Komp & van Tilburg, 2010). The Federal Government funds age-based programs such as Old Age and Survivors Disability Insurance (or OASDI), SSI, and social services under Title XX block grants and the Aging Network of the Older American Act (OAA) (Hooyman & Kiyak, 2011). However, these programs do not meet older adults’ needs. For example, SSI does not protect vulnerable older adults from poverty. Only 27 percent of recipients of SSI, an entitlement program offering monthly cash assistance to older adults and individuals with disability in poverty, are aged 65 and older (Hooyman & Kiyak, 2011). Also, Medicare, a federal health insurance program for people ages 65 years old over and some younger people with disabilities, covers limited long-term care services even though most older adults with disabilities suffer from chronic diseases (Hooyman & Kiyak, 2011). Also, with the fastest growing number of the oldest-old population aged over 85, Medicare insolvency could be a disaster in the future (Hooyman & Kiyak, 2011).

With insufficient federal programs, welfare reform in 1996 has attenuated older immigrants’ eligibility for age-based entitlement programs (Estes et al., 2006), even though the older population has become more culturally and ethnically diverse than ever (Burr, Gerst, Kwan,



& Mutchler, 2009). Although there are immigrants who are relatively self-sufficient, many of them still face poverty and dependence on public services (Patterson, 2004). Considering the rapid growth of older immigrants and their economic needs, it is important to understand the challenges remaining after welfare reform (Gerst, 2009). After federal welfare reform, legal immigrants lost their eligibility for SSI, Temporary Assistance to Needy Families (TANF), Food Stamps, and Medicaid since the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) restricted their eligibility for federal means-tested entitlements (Estes et al., 2006; Gerst, 2009; Yoo, 2001). Although SSI had a high number of older foreign-born recipients before the welfare reform (Yoo, 2001), most of them were not eligible for SSI and remained poor and disabled after PRWORA (Estes et al., 2006). PRWORA restricted noncitizen immigrants from the Food Stamp program and prevented immigrants who had lived in the United States for fewer than five years from obtaining TANF (Gerst, 2009). Some researchers considered this situation a chance to expand policy level by highlighting their needs (Yoo, 2001). However, the welfare reform caused misperceptions about eligibility and uncertainty of elders' rights, along with the fear that application for assistance could result in other disadvantages, such as denial of citizenship (Gerst, 2009; Yoo, 2001).

### International Social Work for Older East Asian Immigrants

This section presents the definition of international social work and essential concepts to improve social workers' understanding about East Asian immigrants. The concept of international social work is complex since the term includes multiple aspects related to social issues and problems such as illegal immigrant women being assaulted by their husbands and children who are victims of neglect and abuse in developing countries (Healy, 2008; Xu, 2006). The Council on Social Work Education (CSWE) defines international social work as “ranging

from social workers working in other countries to refugee service to common professional concerns with social workers in other parts of the world...and should properly be confined to programs of social work of international scope, such as those carried on by intergovernmental agencies (Healy, 2008, p.8).” International social work is carried out through international professional action by professional social workers, and they need to consider strategies in international social work (Healy, 2008). Cox and Pawar (2006) suggest basic strategies for international social work such as empowerment for individuals, family, community, and organizations to help them have control over their environments, as well as developing social integration, and income generation strategies. Immigrants and refugees are the main target of international social work (Xu, 2006). Thus, the efforts to influence policy and practice for older East Asian immigrants fall under international social work. A social worker’s awareness of cultural issues is critical for international social work practice (Healy, 2008). Two core concepts that help international social work practice for older East Asian immigrants are acculturation and filial piety.

### Acculturation.

When immigrants arrive in a new society, they encounter different behavioral patterns and cultural values than they experienced in their native country; these differences may cause adaptation difficulties and acculturation stresses among immigrants (Shim & Schwartz, 2007). Berry et al. (1987) define acculturation as “psychological changes in an individual (in both behavior and internal characteristics) whose cultural group is collectively experiencing acculturation” (p.492). Acculturation causes physical changes such as a new place to live; biological changes related to nutritional status and new diseases; cultural changes including political, economic, technical, linguistic, and religious changes, as well as new sets of social

relationships; and psychological changes such as behavioral changes and new mental health status (Berry et al., 1987). Some immigrants readily assimilate to the host country while rejecting their native culture; others maintain their own culture while resisting the new culture; and others adapt to their new society while integrating both native and new culture (Shim & Schwartz, 2007). Immigrants who attempt to assimilate to their host culture while retaining their essential values can be exposed to the risks of cognitive dissonance, identity confusion, and social adjustment difficulties (Shim & Schwartz, 2007).

There is no consensus about the way to measure the level of acculturation. Shim and Schwartz (2008) use a scale that includes acculturative behaviors such as food preference at home, friendship choice, language preference, and generation history in order to measure behavioral acculturation; De Leersnyder, Mesquita, and Kim (2011) measure the level of acculturation through the proportion of life spent in the host culture based on the number of years spent in the United States and the degree of social contact with members of the host culture; and Ryder, Alden, and Paulhus (2000) use Vancouver Index of Acculturation (VIA) which assesses immigrants' identification with their native and host cultures (Cheung, Chudek, & Heine, 2011). However, the studies focusing on acculturation show the importance of acculturation: less acculturation heightens psychological distress among Asian immigrants in a Western society (Shim & Schwartz, 2008); when immigrants cannot adapt to their host culture, they experience anxiety, depression, identity confusion, low self-esteem, and psychosocial symptom (Hsu et al., 2012).

Asian immigrants in the United States have the tendency to keep core facets of their cultural heritage while adopting the dominant culture in order to achieve economic success (Scott et al., 2006). In the process of cultural adaptation, since immigrants face daily pressures to

adapt and conform to the new environment's psychosocial norms, they suffer from acculturative stress (Shim & Schwartz, 2008). Because older immigrants tend to be less educated, more likely to live in poverty, and less likely to get benefits from health care systems than are native older adults or younger immigrants, they are more vulnerable to acculturative stress (Kalavar & Van Willigen, 2005; Mui & Kang, 2006). Also, acculturative stress can bring about depression among older immigrants from Asia (Han et al., 2007; Mui & Kang, 2006). The prevalence of depression measured by Geriatric Depression Scale (GDS) among older Chinese Americans was 18%, and among Japanese American was 20% (Lee, Moon, & Knight, 2005). The prevalence of depression among older Korean immigrants is higher compared to that of older Mexican Americans and older African Americans (Lee et Lee, Moon, & Knight, 2005). When social workers consider that higher acculturative stress is associated with a higher depression prevalence (Han et al., 2007), they need to have sensitivity about this issue among older Asian immigrants.

### *Filial piety*

If acculturation is an issue of international social work for older Asian immigrants, what are the factors causing the acculturative stress among the population? East Asian culture is rooted in Confucianism, which influences personal social interactions, family structure, personal philosophies, behaviors and values in fundamental ways (Shim & Schwartz, 2007). The Confucian tradition of filial piety is a fundamental value affecting the social life and relationships for East Asian people (Tam & Neysmith, 2006) and it is also an important cultural norm among East Asian immigrant families (Lo & Russell, 2007; Mui & Kang, 2006). Basically, the notion of filial piety plays a significant role in East Asian culture in terms of reciprocity between the younger and older generation (Yoo & Kim, 2010). According to the cultural values

of filial piety, the family is the center of social networks; filial piety is one of the key principles in Eastern culture along with family solidarity, mutual dependence between family members, and respect for elders (Seo & Mazumdar, 2011). For grown-up children, taking care of their aged parents is a compensation for the nurturing they received from their parents (Lai, 2007). Also, filial piety emphasizes the younger generation's respect for members of the older generation who have rich wisdom, knowledge, and life experience; while respecting the older generation, the younger generation become productive members of the family and society as the older generation did; finally the cultural value of filial piety brings about a balance between the younger generation and the older generation (Tam & Neysmith, 2006).

The norms of filial piety, mainly related to caregiving, are not uncommon among Asian immigrants. For example, older Muslim immigrants with chronic illnesses or disabilities receive care from their adult children and family caregivers because their Islamic teachings are similar to those of filial piety (Hasnain & Rana, 2010). However, the role of caregiving from filial piety is traditionally carried out by women, especially daughters-in-law. Asian daughters-in-law with economic problems have reported increased health problems and stress because of combining their jobs and household and caregiving responsibilities for both their children and elders (Spitzer et al., 2003). Currently, filial obligation of East Asian immigrants varies based on the adult children's financial status, the needs of parents, and proximity of residence (Yoo & Kim, 2010). However, some Asian adult children still tend to feel guilty or ashamed to allow older relatives with disabilities to stay in nursing homes (Kong et al., 2010).

Filial piety can cause intergenerational conflicts between older parents and their children (Mui & Kang, 2006). For an effective practice, social workers need to understand the term generation gap which means "differences in age (Trang, 2008, p. 62)" and generation difference

which means “the different waves of immigration or the different ways someone has immigrated to the United States (Trang, 2008, p. 62).” Both generation gap and generation difference are related to intergenerational conflicts. Since filial piety is not a specific cultural value in western culture, the concept can be less meaningful to the second- and third- generation immigrants from Asia than it was to the first-generation immigrants because the younger generation has a higher level of acculturation than the foreign-born older generation (Kauh, 1997; Trang, 2008). Because of the different attitudes toward filial piety within generations, older Asian immigrants may feel they have less prestigious roles in their family (Kauh, 1999). Older Asian adults have filial expectations for the younger generation as compensation for the sacrifices they made for their children (Ingersoll-Dayton & Saengtienchai, 1999). Since the essential value of Asian families is to fulfill obligations stemming from Confucianism for older adults, aged parents think their children should take full responsibility for their needs in later life (Kauh, 1997). For example, old age accompanies authority in family and respect from their offspring in the traditional Korean culture; thus older Korean immigrants normally have expectations for multigenerational living arrangements and a strong sense of family solidarity (Mui & Kang, 2006). Normally, Korean older children, especially the married oldest son, have an obligation to live with older parents and to continue to care for them (Seo & Mazumdar, 2011). Although co-arrangements with children have decreased during the past decades, 42% of older adults in Korea lived with their adult children in 2006 and 43% of older adults over 60 years old in Korea are financially dependent on their adult children (Yoo & Zippay, 2012). However, their children who have already adapted to Western culture think of older adults as peers and they prefer to live independently (Mui & Kang, 2006). In general, the level of financial dependence on adult children is low among the majority of older adults in the United States and most of them live

independently (Yoo & Zippay, 2012). Thus, filial piety may bring about challenges for older East Asian immigrants and their offspring (Yoo & Kim, 2010). These generation differences have caused changes in intergenerational relationships and anxiety for older East Asian immigrants (Kauh, 1997; Lo & Russell, 2007).

### Promising Practice

This section explains the long term care insurance in Korea and the home delivered meals program in the United States. These two programs may be the most promising practices in the field of gerontology reflecting the needs of older Asian Americans in the United States. The long term care system in Korea reflects the current culture of filial piety in Asia and the home - delivered program in the United States is a good example that considers cultural issues in order to meet older ethnic minority members' needs. Understanding these programs is useful in finding ways to enhance the well-being of older Asian immigrants.

### Elderly Long Term Care Insurance (ELTCI) in Korea

The practices of filial piety in Korea are continually being modified, however, and the laws have changed (Yoo & Kim, 2010). Elderly Long Term Care Insurance in Korea reflects the recent trend of filial piety in Eastern culture. According to the Korean government, the proportion of the aging population who is 65 years old and older is over 10% now and Korea will be a "super-aged society" by 2026 (Lee, 2010; Seok, 2010). When the percentage of 65 or older population is 8%-10% of the whole population, the society is considered relatively old and when over 20% of its population is 65 or older, the society considered as super aged (Nakamura, 2008). This demographic phenomenon is occurring more rapidly in Korea than in Japan, and Korea is one of the fastest aging societies in the world (Chee, 2000; Seok, 2010). Around one million Koreans aged 65 and older suffer from chronic diseases such as dementia or cardiovascular

disease, and dementia occurred in 8.76% of the aging population in 2010 (Kim, Kim, & Kim, 2010; Yeon, Hong, Lee, & Lee, 2011). The growing number of frail older adults and the decreasing birth rate have made Korea the fastest aging society (Lee, 2010). With the rapidly aging population, health care cost for treating geriatric diseases has increased almost twofold between 2002 and 2007 (Kim, Kim, & Kim 2010). Korea recently declared War on Dementia, and the government has carried out Elderly Long Term Care Insurance (ELTCI) since July 2008 (Lee, 2010; Yeon, Hong, Lee, & Kee, 2011). Considering Germany's and Japan's adopted public long-term care system at the aging rates of 17 % to 18%, Korea's introduction of ELTCI is noteworthy (Seok, 2010). The weakened sense of filial care is another reason for the Korean government's speedy introduction of the long term care system (Seok, 2010). Informal support from the family is no longer the main caregiving resource for older adults in Korea because of modernization and industrialization (Lee, 2010).

The objective ELTCI in Korea is to "improve the life quality of the old and contribute to the family's welfare by providing long-term care benefits to old people who cannot maintain activities of daily living without assistance (Seok, 2010, p. 189-190)." Any older adults who are diagnosed with disabilities in physical, cognitive, and behavioral functions are able to apply for the system (Kim, Kim, & Kim, 2010; Lee, 2010; Seok, 2010). After evaluation by the Long-Term Care Grade Judges' Committee about the physical and mental status of the applicants, the National Health Insurance Corporation decides the eligibility of the applicants (Seok, 2010). When an older adult is accepted for ELTCI, he can get in-home services, institutional services, and special cash benefits according to the user's health, economic, and social status from service providers in a private sector (Kim, Kim, & Kim, 2010). In-home services include home help, home bathing, toileting, dressing, cooking, cleaning, and shopping by trained caregivers,



day/night care in residential facilities providing geriatric care, short term care in long-term care facilities when a main caregiver is absent, and home nursing by a physician or a dentist (Kim, Kim, & Kim, 2010; Seok, 2010). Institutional services are provided at long-term care facilities, licensed nursing homes, retirement homes, and licensed residential care facilities (Kim, Kim, & Kim, 2010). The cash benefit is to help frail older adults and their families and includes a family care allowance (Kim, Kim, & Kim, 2010; Seok, 2010). The main source of finance is the national health insurance in Korea, and users, except for the poor, pay 15% of the service cost in home care benefits and 20% in residential care benefits (Kim, Kim, & Kim, 2010; Seok, 2010). Korean ELTCI has been helpful in expending universal social services for older adults in terms of the institutionalization of the Korean government's support (Seok, 2010). Most existing social services in Korea are from selective social service models only for people in poverty (Seok, 2010). This means that the Korean government has recognized long-term care as a social problem which has caused an increase of social care costs and family care burdens, and has tried to solve the problem (Lee, 2010). According to Korean Gallup's national survey, over 90% of family caregivers stated that their psychological pressures of caregiving for their older families were reduced in 2009 (Seok, 2010). Also, after the introduction of the system, the government saved on hospitalization costs (Lee, 2010). However, the service quality in the ELTCI still needs to be developed to meet the users' needs among multiple service providers (Seok, 2010). Because of the lack of infrastructure and trained health professions, the government is unlikely to be able to respond to the users' needs, with too much focus on medical/clinical and not enough on the social (Lee, 2010).

Although ELTCI is a unique social policy in Korea, modernization and industrialization has influenced traditional filial piety occur around the world (Chee, 2000; Lee, 2010). Thus, the

United States can realize the change of filial culture in Asia by understanding the background of long-term care system. Consistent with modernization, the number of nuclear families has increased and family values such as family responsibility and patterns of intergenerational exchanges are changing (Chee, 2000). Although co-residence and supporting older parents at home was a common filial responsibility, the number of these households is decreasing in Asian society including Korea, Japan, and Taiwan (Chee, 2000). In addition, the increase of women's participation in labor markets has changed traditional filial caregiving since daughters in law are the main caregivers for frail older adults according to Confucianism (Kim & Choi, 2008). However, social workers and policy makers cannot be sure that filial caregiving will disappear. Although caring for older parents often brings about challenges for family members because of time and cost expenditure (Kim, Kim, & Kim, 2010), Koreans still have negative attitudes toward institutionalized care services such as nursing homes. Koreans believe using these institutionalized services decreases older adults' self-identity (Kim & Choi, 2008). Korean ELTCI reflects this situation in that Korean ELTCI encourages users to use in-home services and pays family caregivers who are trained (Kim, Kim, & Kim, 2010; Seok, 2010). Although it is true that filial piety is weakening after industrialization, no one can assume that filial duties are neglected (Kim & Choi, 2008). Although the form of filial duties is changed, the ethic of filial piety is still an important value among Asians. Thus, practitioners and policy makers need to understand Asian-Americans' culture to maintain quality of life.

*Elderly Nutrition Programs (ENPs) by the Administration on Aging (AoA) in the United States*

The Elderly Nutrition Programs in this country is promising in terms of considering cultural characteristics of recipients. Food security depends on the availability of nutritionally adequate and safe foods and the assured ability to acquire acceptable foods in socially acceptable

food (Duerr, 2007). Food security is important for older adults since food insecurity exacerbates their chronic health (Lee, Fischer, & Johnson, 2010). Although food insecurity is related to economics, health, physical limitations and lack of social support, it is a hidden problem among older adults (Duerr, 2007; Roseman, 2007). With increasing life expectancies, needs for food security among older adults have also increased (Wellman & Kamp, 2004). According to USDA in 2008, food insecurity occurred in more than 8% of households with older adults (Lee, Fischer, & Johnson, 2010). In particular, racial/ethnic minority older adults often confront food insecurity because their economic status and health status tend to be lower than that of white older adults' status (Choi & Smith, 2004).

Under the Older Americans Act, the United States implemented the Elderly Nutrition program and home-delivered nutrition services were added in 1970s (Mower, 2008; Roseman, 2007). Most federal food and nutrition programs for older adults are run by either the Department of Health and Human Services or the Department of Agriculture (Wellman & Kamp, 2004). The U.S. Department of Health and Human Services has three nutrition providers for older adults, the Administration on Aging (AoA), the Indian Health Service (HIS), and the Centers for Medicare and Medicaid Services (CMS) (Wellman & Kamp, 2004). The objective of elderly nutrition services in AoA are to help maintain health among older adults aged 60 years or older who have a severe lack of economic or social resources (Duerr, 2007; Mower, 2008; Wellman & Kamp, 2004). A large part of the funds are from the federal government through the Older Americans Act (Wellman & Kamp, 2004). Older adults with eligibility for the nutrition services take congregate meals in social settings and receive home-delivered meals (Mower, 2008) (Mower, 2008). The home-delivered service provides "at least one meal a day, five days a week, and meet at least one-third of the recommended dietary allowances for older adults (Duerr,

2006, p.5).” Around 66 percent of total congregate meals participants (about 1,686,000 participants) and 34 percent of total home-delivered service users (880,135 users) were served in elderly nutrition programs in 2009 (Administration on Aging, 2012, January 2). The programs offer not only meals but also other benefits such as nutrition screening, education and counseling to the older participants for improving their food security (Mower, 2008).

The nutrition programs run by AoA have strengths not only in nutrition but also in socialization (Mower, 2008). For example, participants in congregate meal services have opportunities to meet other participants when they use the service (Mower, 2008). Home delivery service users are also less isolated because of visitation by volunteers who can also monitor their health status and needs (Wellman & Kamp, 2004). However, fewer than 10 percent of the older people with food insecurity receive benefits from nutrition programs (Wellman & Kamp, 2004). Furthermore, there are participants who are still exposed to food insecurity even after using the services (Duerr, 2007). It is time to expand the system in terms of finance, quality of meals, and a targeted population to secure older adults’ well-being and their rights to adequate food.

Focusing on ethnic minority users in the nutrition programs, policy makers and social workers can develop services with a sensitivity to culturally diverse needs (Mower, 2008). Although all older adults need food to maintain physical, cognitive, and psychosocial functions regardless of culture, each cultural group has unique characteristics in terms of diets, eating habits and food preferences (Gordon, 2006). The proportion of eligible Asian Americans who are willing to join in the elderly nutrition programs is relatively low (Choi, 2002). Regarding the growing number of Asian immigrants, it is important to develop strategies for improving accessibility and acceptability of the nutrition programs in order to promote their participation

(Choi, 2002). Choi and Smith (2004) suggest several reasons why eligible members do not participate in the nutrition programs for older adults: “lack of knowledge about the availability of the meal programs or misunderstanding of the eligibility rules; sense of stigma attached to receiving of the meals; and unfamiliarity with and dislike of the foods served by the programs (Choi & Smith, 2004, p. 92).” The County Senior Nutrition Program under the Older Americans Act from 1990 to 2007 which targets older adults in Korean, Vietnamese, and Chinese communities in Montgomery County in Maryland is a case of ethnic congregate nutrition programs (Mower, 2008). The older Asian-Americans in this case had limited English abilities and lived with their adult children. Most were isolated before their family members got off work (Mower, 2008). Also, many of them did not have benefits from Social Security (Mower, 2008). This program had cultural sensitivity in offering meals, socialization, activities, and services to encourage the older immigrants from Asia to participate in the nutrition service. For example, the program analyzed Korean and Vietnamese meal patterns and provided traditional meals to participants (Mower, 2008). Also the program included a volunteer staff who was familiar with these cultures and languages (Mower, 2008). This successful program in Montgomery County in Maryland demonstrates how important it is for social workers and policy makers to understand cultural sensitivity.

### Part III: Conceptual Framework

Conceptualization is necessary to refine and specify abstract concepts before developing specific research procedures (Rubin & Babbie, 2008). The conceptual framework is the foundation to create research designs and methods (Rubin & Babbie, 2008). In this section, a conceptual framework was developed by integrating productive activities among East Asian immigrants based on the theories of productive aging.

### Productive Activities among East Asian Immigrants

This section illustrates the productive activities of East Asian immigrants, especially paid work, volunteering, and caregiving.

#### Work.

Immigrants have increased in the US workforce, and concern over their job stress is also growing because they have to adjust to new working conditions (Fujishiro et al., 2011). Immigrant workers are in a new social context, and they need to adapt to the new way of assessing their work, the dominant language, and their legal status even if they are experts in their field (Fujishiro et al., 2011). However, East Asian immigrants are regarded as a model minority since they seem to have social parity with ethnic minorities in this country (Berdahl & Ji, 2012). The dominant images of East Asians in the United States are intelligent, gifted in math and science, polite, hardworking, family oriented, and successful in business (Wu, 2003). Those images may be rooted in immigration quotas that restricted East Asians entering to this country to educated and skilled professionals and academics (Berdahl & Ji, 2012). The occupational distribution of post-1965 Asian immigrants was changed from dishwashers and waiters, which are low-paying service jobs, to white-collar workers (Segal, 2002). The immigration laws in the United States have allowed those East Asians to immigrate who are chosen because of their high education level and financial self-sufficiency (Hsueh et al., 2008). After immigration, Asian Americans maintain a better education level, on average, than White Americans (Wu, 2003). East Asian Americans graduate college at about twice the rate of white Americans (Wu, 2003). However, East Asians have the ambivalent stereotype of “competent and hardworking but cold” in the workplace, that is, lacking feeling or being friendless, and it may originate from the

interdependent self of collectivist cultures, emphasizing loyalty to the in-group (Berdahl & Ji, 2012).

However, there are Asian Americans who are still paid less and are employed less for the higher-paying jobs than White Americans who are equally qualified (Wu, 2003). The Asian American community is becoming more and more bipolar (Segal, 2002). Although there are Asian immigrants who started off relatively fortunate compared to Asians in Asia and native-born Americans and are working at professional positions (Wu, 2003), others are not well educated and are employed in labor intensive position (Segal, 2002). There are East Asian Americans working in important administrative, executive, and managerial positions, yet they are underrepresented (Segal, 2002). Many East Asian immigrants are self-employed and run small businesses (Yoo & Kim, 2010). East Asians are much more involved than other ethnicities in small, family-run business such as traditional restaurants or grocery stores (Segal, 2002). A lack of English proficiency is one of main reasons for high rates of self-employment among East Asian immigrants even if they have good qualifications to work at professional positions (Segal, 2002). For example, a Korean immigrant who resides in California, sells groceries to other Korean immigrants, and buys ramen noodles in Korean town (Wu, 2003), does not need to speak English.

### Volunteering

The United States has the highest rate of volunteering in the world become volunteering is a culture in this country, so it plays an important role in understanding the immigrant experience and acculturation (Tong, 2010). Previous studies state that volunteering among immigrants has associations with their labor history, religion, and engagement in mutual-aid

native societies and organizations for helping immigrants (Femida Handy & Itay Greenspan, 2009). However, until now, little has been known about immigrants' volunteering activities because they have been perceived as recipients of social services offered by nonprofits (Lee & Moon, 2011), although each ethnic group has a difference in the likelihood of volunteering (Sundeen, Garcia, & Raskoff, 2009). Because the value of formal volunteering varies in immigrants' original culture, volunteering activities are diverse according to their ethnicity (Sundeen Garcia, & Raskoff, 2009). Nevertheless, generally, the volunteer rate among immigrants is relatively low because immigrants, especially the first generation immigrants, may be not familiar with the culture and may suffer from difficulties in securing paid work (Couton & Gaudet, 2008; Tong, 2010). Although there are some controversies about the necessity of immigrants' active engagement in the groups such as religious organization, social clubs, and professional organizations, volunteering is one form of engagement showing the process of creating social and human capital (Handy & Greenspan, 2009).

Since recent East Asian immigrants have relatively higher levels of education and income than the average American, they have enough potential to contribute to their community and society (Lee & Moon, 2011). The first generation immigrants lost most of their social networks when they arrived in their new country; thus, they have tried to engage in a new social network in order to receive emotional and relational benefits (Lee & Moon, 2011). Volunteering is one way of engaging in society, and it is a good opportunity to develop and expand their social network in the host society (Lee & Moon, 2011). Generally, social services provided by ethnic nonprofits target their own ethnic groups and Asian immigrants also seek volunteering chances in their ethnic community association rather than in majority ones (Lee & Moon, 2011). Asian Americans are a religiously diverse group, and religion is one of the most important factors



influencing volunteering among Asian Americans (Ecklund & Park, 2007). Catholic and Protestant Asian Americans volunteer more than Asian American Buddhists, Hindus, and nonreligious (Ecklund & Park, 2007). For example, over 70% of the first generation Korean immigrants belong to Korean Churches, which guide Korean immigrants' volunteering efforts for members in their local community (Ecklund, 2005). The congregations of these churches are a main source for recruiting volunteers even for other civic organizations (Sinha, Greenspan, & Handy, 2011).

When East Asian immigrants stick to volunteering for their ethnic community, their strong ethnic identity prevents their wider involvement in mainstream society (Sinha, Greenspan, & Handy, 2011). Lee and Moon (2011) suggest that continuing education for improving English ability motivates Asian immigrants to volunteer in not only their ethnic organizations but also in mainstream nonprofit organizations. To be specific, volunteering has potential social, economic, and educational benefits to native speakers; immigrants' limited language ability is one of the main reasons for not volunteering; thus, volunteering provides a chance to develop adult immigrants' English ability and communication skills and to obtain the social, economic, and educational benefits of volunteering like native speakers (Dudley, 2007).

### Caregiving

With aging, older adults are exposed to chronic diseases, and their functional declines related to reverse capacities may impede a healthy life in later life (Hoyer & Roodin, 2009). The older they get the more important caregiving is to them. Although there are older adults receiving long-term care in nursing homes, informal caregiving is the primary long-term care status in the United States for older adults (McCallion, Janicki, & Grant-Griffin, 1997). Even after

immigration, East Asian immigrants keep their cultural values, and East Asian caregivers in Western cultures are more likely to become stressed than Western caregivers (Lai, 2007). A healthy spouse often cares for his or her frail spouse, and it is a common practice among Caucasian American caregivers (Lai, 2007). Spouses taking care of frail older adults may also exist among East Asian immigrants (Han et al., 2008; Neufeld, Harrison, Stewart, Hughes, & Spitzer, 2002). However, most research about caregiving issues among the ethnic group focuses on adult children caregivers for their older parents (Jones, Zhang, Jaceldo-Siegl, & Meleis, 2002; Kwon & Kim, 2011; Lai & Surood, 2008; Lai, 2007; Lo & Russell, 2007; Yoo & Kim, 2010).

In addition, older adults assist other generations (Treas & Mazumdar, 2004). Recently, the number of grandparents caring for their grandchildren has increased because of adult children who have issues such as military service, divorce, child abuse, drug use, and incarceration (Hoyer & Roodin, 2009). Although there is little research on Asian American grandparenting, there are many older East Asian immigrants caring for their grandchildren, and they also follow traditional values rooted in the Confucian value of filial piety in terms of rearing grandchildren (Nagata, Cheng, & Tsai-Chae, 2010; Xie & Xia, 2011). Unlike European Americans who maintain a companionate and “friend-based” relationship with grandchildren, older East Asian Americans keep a hierarchical relationship with their grandchildren and fixed structured role relationships within intergeneration (Nagata, Cheng, & Tsai-Chae, 2010). Also, co-residence of three generations is a precondition of filial piety (Nagata, Cheng, & Tsai-Chae, 2010). For example, many Chinese immigrants who take care of their grandchildren live with their offspring, and they assist in child rearing (Xie & Xia, 2011). The free child care provided by grandparents aids adult children who struggle to balance work and childrearing, and older East Asian immigrants who are invited by adult children to care for grandchildren are not uncommon (Xie

& Xia, 2011). Older East Asian immigrants receive self-satisfaction through grandparenting (Xie & Xia, 2011), but they also confront some challenges since many foreign-born grandparents spend most of their time caring for grandchildren, so they do not have social relationships and leisure time (Nagata, Cheng, & Tsai-Chae, 2010; Xie & Xia, 2011).

### Application to the Concept of Productive Aging among Older East Asian Immigrants

The concept of productive aging is possible through older adults' commitments to themselves, relatives, and communities by doing paid work and unpaid activities including volunteering, caregiving, and informal assistance (Baker et al., 2005; Dosman et al., 2006; Hinterlong et al., 2007). Considering the rapid growth in the number of Asian Americans in the United States that is expected in the next 50 years (Han et al., 2007; Liu, 2003; Mui & Kang, 2006), it is critical to consider productive aging among older Asian immigrants and older Asian Americans. This section provides the strengths and limitations of each theory in terms of its application to productive aging among older Asian Americans and immigrants in the United States.

### Role theory

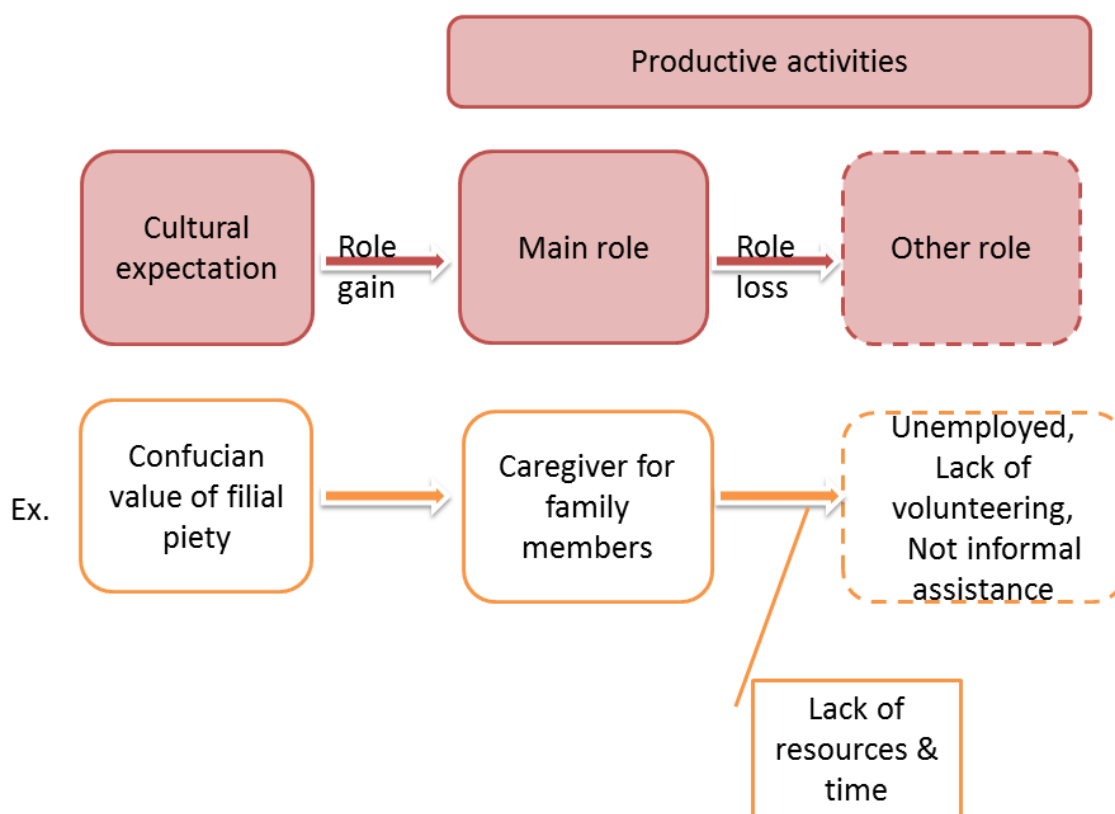
Role Theory is one of the main theories explaining the concept of productive aging. The roles and positions of older adults may depend on cultural expectations toward them since people hold expectations based on older adults' age in their culture (Thomas & Biddle, 1966). When people consider Asian culture which includes ideas such as filial piety (Hasnain & Rana, 2010), productive activities among older East Asian immigrants may reflect their cultural characteristics. People who regard cultural roles as productive activities can understand the productive aging of East Asian immigrant populations. For example, older East Asian immigrants tend to live

together with their adult children's family because cohabitation of older parents and adult children is a type of filial caring in terms of emotional and economic support (Lo & Russell, 2007). While living with their adult children, Asian Americans can commit to their family. In the study of Kataoka-Yahiro (2010), extensive care of grandchildren is a normal role for Asian American grandparents because they do not think of it as a burden, but as a normal expectation. Their caregiving for grandchildren continues even when they need to spend more time on self-care for chronic health problems such as heart disease, diabetes, hypertension, back pain, and sleep deprivation (Kataoka-Yahiro, 2010).

This theory is a useful tool to predict and explain older adults' roles. If older adults figure out which roles are acceptable in their society, they can participate in these activities. Since East Asian immigrants generally respect the Confucian value of filial piety, which influences family culture (Lo & Russell, 2007), cultural expectations based on this value help people understand productive activities among older East Asian immigrants through the application to role gains/losses and role strain related to cultural expectations. For instance, in the case of older Asian immigrants living with adult children, they may gain the role of caregivers for their grandchildren while their adult children work in the labor market, and playing this role can help keep the balance within the family. This is an example showing the role enhancement hypothesis, which assumes that role accumulation causes positive outcomes and that playing a role is a right as a fundamental human right (Hinterlong et al., 2007). Also, it is possible to understand productive activities since the role strain hypothesis assumes that the obligations of one role reduce the chances of playing other roles (Hinterlong et al., 2007). Older East Asian immigrants may experience loss of roles or role strain when they lose opportunities to engage in other activities or when they lose their health because of the lack of time to take care of themselves.

For example, older adults who care for their spouses and grandchildren might not have enough resources to volunteer and assist others. Figure 4 shows the example of the application of the role theory to productive activities among older East Asian immigrants whose main role is caregiver for grandchildren.

Figure 4: The application of the role theory to productive activities



Not every behavior can be explained by a theory which focuses on social relationships and social systems. An older person's needs and activities can be caused by psychological or physical problems regardless of his or her role. However, this theory can help researchers study productive aging in terms of understanding the population's activities and commitments.

### Life-span theory

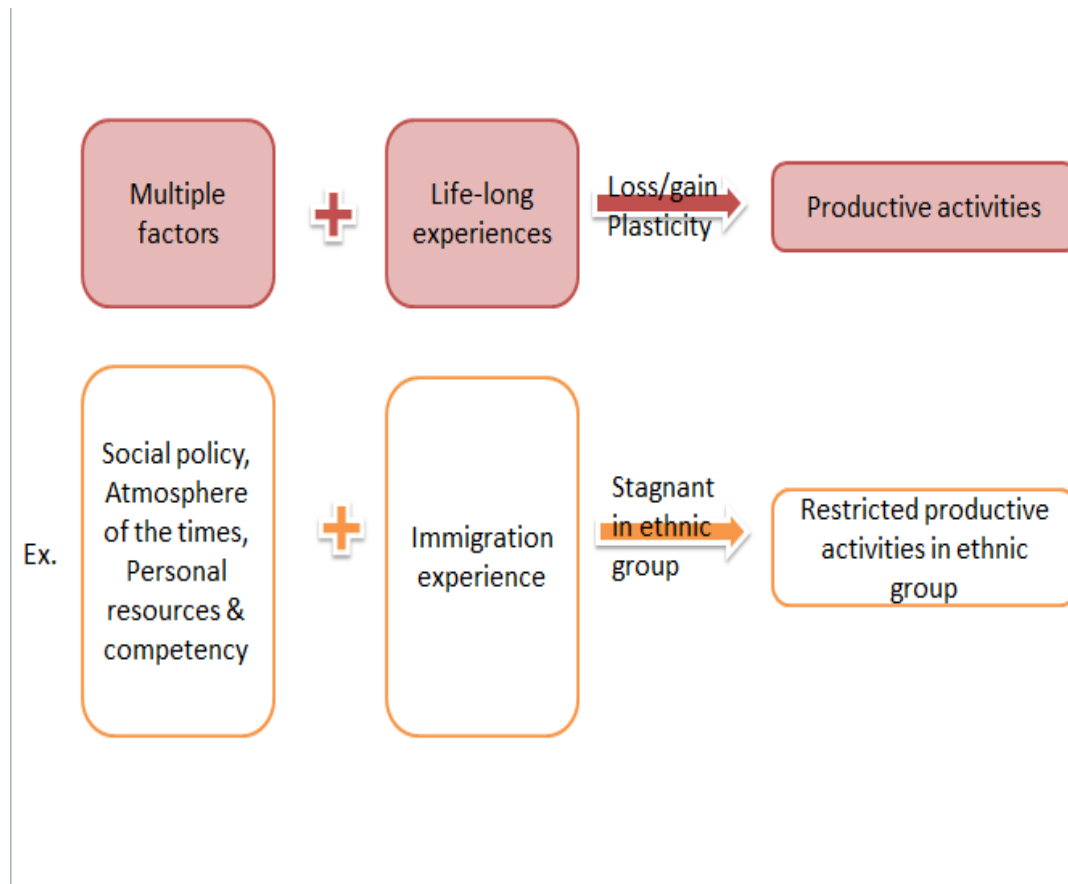
Empirical research has shown that the aging population has the competency to deal with their later life in a productive way (Baker et al., 2005; Dosman et al., 2006; Herzog & House, 1991; Hinterlong et al., 2007; Kerschner & Pegues, 1998; Ranzijn, 2002). However, most research focuses on a specific aspect of older adults' lives, such as physical or mental health, not on their whole lives. In addition, social theories supporting productive aging have limitations in explaining multiple aspects of late-life (Hooyman & Kiyak, 2011).

The life-span perspective provides a conceptual and methodological framework for the study of productive aging. First of all, this theory can be applied to understand how earlier productivity influences the potential to age productively (Taylor & Bengtson, 2001). According to this idea, someone who experiences institutional challenges such as racism does not have enough opportunities to develop his or her productivity, and a lack of productivity in earlier life affects productivity in later life (Taylor & Bengtson, 2001). Ethnic minorities often face social, psychological, and economic disadvantages that will negatively affect their later lives (Taylor & Bengtson, 2001). Older immigrants tend to be less educated and more likely to live in poverty (Kalavar & Van Willigen, 2005; Mui & Kang, 2006). Their current lack of resources can be interpreted by the lack of resources available when they immigrated to the United States. The cumulative process of suffering from these disadvantages can be explained in more detail. For example, migrant experiences are shaped by conditions of immigration, the opportunities to achieve goals, and the social context (Clark, Glick, & Bures, 2009). Although post-1965 East Asian immigrants had relatively higher levels of education and financial resources than other Asian immigrants did when they arrived in this country (Berdahl & Ji, 2012), many of the first

immigrant generations from East Asia were employed for work-intensive positions, and white-collar workers from East Asia experienced the glass-ceiling (Segal, 2002).

These immigrant experiences can also be explained through key concepts of the theory such as multidirectionality, losses/gains, and plasticity and may show age-differentiated social roles and activities. For example, productive activities such as working and volunteering among older East Asian immigrants can be explained through the concepts of this theory. The total personal incomes of older immigrants are about 20 percent lower than those of older natives, and they rely more heavily on salary income and Supplemental Security Income (SSI) than do natives (Terrazas, 2009). The high rates of self-employment and the large numbers of family businesses among post-1965 immigrants from East Asia have reduced the first-generation immigrants' accessibility to Social Security, employer pensions, and private savings after retirement (Yoo & Kim, 2010). The job history of an immigrant group affects the immigrants' current socio-economic status and their need to work and volunteer. Also, East Asian immigrants lose opportunities to participate in mainstream society because they often lack proficiency in English (Sinha et al., 2011); they may stick to their ethnic identity, and their plasticity may remain stagnant, so there may be unique patterns of productive activities among older East Asian immigrants unlike the second and third immigrant generations, because the older a person is, the more crystalized his cultural intelligence will be (Baltes, 1987). Figure 5 shows the example of the application of the life span theory to productive activities among older East Asian immigrants based on their immigration experiences.

Figure 5: The application of the life span theory to productive activities



There are opposing perspectives which show that people have a chance to make up for the disadvantages of aging (Taylor & Bengtson, 2001). Also, life-span theory does not have enough standards to measure most key concepts (Baltes, 1987). However, the life-span theory helps extend our view about productive aging among East Asian immigrants from the fragmentary individual or family level to the multiple social level including immigration experiences.

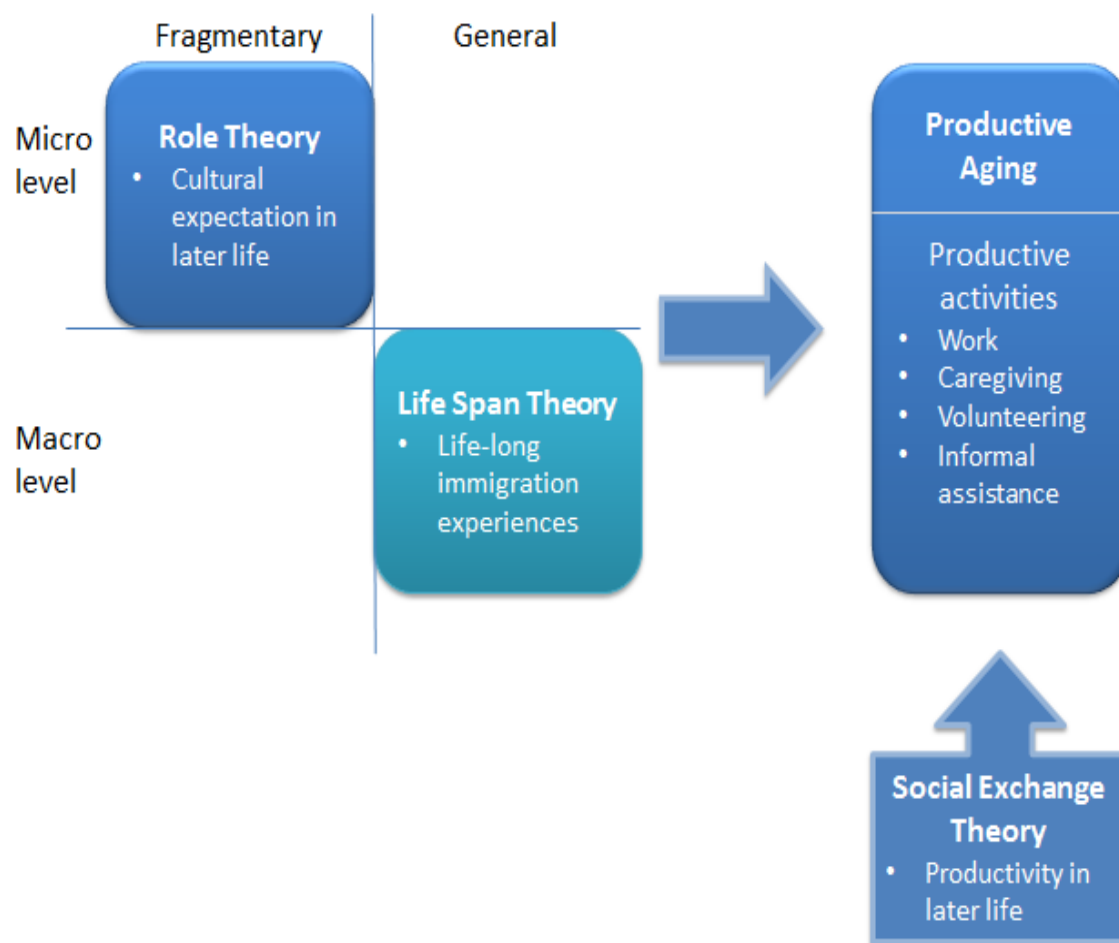


### Social exchange theory

In the view of the social exchange theory, older people tend to lose their power because they are considered incompetent in the labor market (Taylor & Bengtson, 2001). However, in this theory, not only material resources such as money and goods but also nonmaterial resources such as love, status, information, and services can be exchanged in society (Cropanzano & Mitchell, 2005). Older adults who commit to society, family, and themselves have power to exchange in their society and have the potential to age productively even when they do not have material resources. According to this theory, productive activities would include older adults' attempts to interact with others and maintain their social power and value through reciprocity. In considering caregiving activities among East Asian immigrants, the family is one of the main institutions in which the concept of productive aging can be used to measure older adults' contributions (Taylor & Bengtson, 2001). Increased cases of grandparents raising their grandchildren show that grandparents are committed to their families (Taylor & Bengtson, 2001). Reciprocity occurs in interdependence exchange between older caregivers and family members. Especially in East Asian culture, adult children's caregiving parents reciprocate past help (Call et al., 1999); older grandparents' caregiving for grandchildren and older wives' caregiving for sick husbands count toward future assistance and show a continuation of exchange over time (Call et al., 1999). The reason that reciprocity is relatively balanced without any material rewards may be understood by the cultural context of filial piety and Confucianism. Thus, the social exchange theory suggests a theoretical ground of productive activities in that it supports the value of productive activities in later life, not only paid work but also the non-material activities including caregiving, volunteering, and informal assistance.

Those theories provide theoretical views for gerontology, and each theory enhances the understanding of aging and productivity among older Asian Americans and immigrants. Role theory is one of the earliest theories on an individual's adjustment to aging (Hooyman & Kiyak, 2011). Life-span theory can incorporate the dynamics and social processes of productive aging which happen at both micro and macro social levels (Taylor & Bengtson, 2001). Social exchange theory is helpful in analyzing and developing productive aging (Taylor & Bengtson, 2001). These three theories include concepts connected with migrant experiences and cultural traditions among older East Asian immigrants and their current productive activities. Although each theory has different perspectives toward aging and society, these three theories can be integrated into productive aging with logical coherence; the role theory is used for understanding older East Asian immigrants' productive aging in terms of the individual and fragmentary; the life span theory is used to explain productive aging based on social factors and lifelong immigration experiences; and the social exchange theory suggests a theoretical ground of productivity in later life. Figure 6 shows the conceptual framework of this study.

Figure 6: The conceptual framework



### Chapter Summary

Chapter 2 has highlighted the concept of productive aging and East Asian immigrants. Productive aging is a still-developing concept with extended life and emphasizes older adults' commitment to their society. This concept can be specified into productive activities such as paid work, volunteering, caregiving, informal assistance, and career related education etc. Although there are critiques to the concept of productive aging, theories and empirical studies support the concept. It is not unrealistic for older adults to age productively and continue to make contributions to society, community, family, friends, and themselves in later life.

As mentioned before, East Asian immigrants are important members of society and increased international social work is necessary to meet their needs. In order to respond to their needs, social workers and policy makers should understand how East Asian immigrants adapt to the dominant society and East Asian culture such as filial piety. ELTCI in Korea shows how a social policy responds to current filial piety. EPN is an example of social services considering cultural diversity in the United States.

Older East Asian immigrants have competence to commit to their society through work, caregiving, and volunteering. According to the social exchange theory, productive activities in later life are valuable to society. East Asian immigrants also perform productive activities and their culture and immigration experience affect their activities. Role theory is applied to understand older East Asian immigrants' daily activities reflecting their culture. Life-span theory supports the idea that acculturated immigration experiences make an impact on productive activities among East Asian immigrants. Research design and method is provided in Chapter 3.

## CHAPTER 3

### RESEARCH DESIGN AND METHOD

This chapter delineates the research questions, research design and method to understand productive aging of older East Asian immigrants in the United States. This study employs a quantitative research design by conducting a secondary dataset, American Community Survey Public Use Microdata Sample (ACS PUMS). The main quantitative analytic procedure is multivariable regression analysis.

#### Research Questions

The central claim of the conceptual framework (Figure 3) is that productive aging can be explained by productive activities at the individual level and the social level as well as the fragmentary aspect and the multiple aspects; productive aging depends on activities resulting from cultural expectations and accumulated life-long experiences. Immigration experiences can be considered as one of the strong events affecting an individual's life; after immigration, people confront extensive changes ranging from the physical, the cultural, and the social to the psychological aspect (Shim & Schwartz, 2007). The process of adaptation to the new culture is not short-term and is related to multiple aspects including social policy, social atmosphere at the time, personal resources, and personal competency (Taylor & Bengtson, 2001).

Because of the accumulated immigration experiences, immigrants exercise unique patterns of activities differing from the activities of natives in later life. Immigration experiences

include the stressful aspects such as novelty, unfamiliarity, loss of familiar networks, and loss of support systems (Yang, Wang, & Anderson, 2010). The longer immigrants stay in the United States, the more likely they are to be stable in the dominant society. For example, length of residency in the host country is one of the strong factors affecting immigrants' health status (Aroian & Norris, 2003; Bhugra, 2004; Oh, Koeske, & Sales, 2002; Takeuchi et al., 2007; Yang, Wang, & Anderson, 2010). Also, immigrants who are naturalized in this country have easier access to social support and Social Security benefits. For instance, older noncitizens take fewer benefits from Medicaid than older naturalized citizens (Nam, 2012). Thus, the first research question and conceptual hypothesis in this study focus on the general immigration experiences as follows:

Research question 1: How does the immigration experience of older East Asian immigrants impact their productive activities?

- Hypothesis 1: The immigration experiences affect productive activities of older East Asian immigrants.
  - Hypothesis 1-1: The longer length of immigration is positively associated with productive activities of older East Asian immigrants.
  - Hypothesis 1-2: The attainment of U.S. citizenship is positively associated with productive activities of older East Asian immigrants.

Also, an individual's daily activity depends on the expectations in his/her culture. Immigrants' cultural isolation or adaptation may be connected to their roles and activities. For example, immigrant families who suffer from lack of financial resources are more likely to confront host cultural challenges such as language barriers and racism, and they play labor

intensive roles in the work place (Shea, Yang, & Leong, 2010). In case of older immigrants who keep internal continuity with their own culture, they tend to preserve their familiar language, eat their traditional foods, maintain their relationships with old friends, and lack familiarity with their host culture (Son & Kim, 2006); these acculturation issues may be related to the older immigrants' passive role in the host culture. Although there is no agreement about the measurement of the level of acculturation, Shim and Schwartz (2008) define acculturative behaviors such as food preference, friendship choice, and language preference, etc. in order to measure the level of acculturation. In particular, the language barrier has been dealt with one of the main factors influencing acculturation and adaptation in host culture (Barry, 2002; Han et al., 2007; Schrauf, 2009; Shim & Schwartz, 2008; Yang, Wang, & Anderson, 2010). The length of living in the host society is also a scale for evaluating the level of acculturation (Ryder, Alden, Paulhus, 2000). Thus, the second research question and hypothesis focus on the individual level of immigration experiences, specifically personal acculturation, as follows:

Research question 2: How does the acculturation of older East Asian immigrants impact their productive activities?

- Hypothesis 2: The degree of acculturation reflects an older immigrant's level of engagement in productive activities.
  - Hypothesis 2-1: The language preference of English is positively associated with an older immigrant's level of engagement in productive activities.
  - Hypothesis 2-2: The proportion of life spent in the host culture based on the number of years spent in the United States is positively associated with an older immigrant's level of engagement in productive activities.

### Research Design

This section focuses on potential secondary datasets for this study and why I chose the American Community Survey Public Use Microdata Sample (ACS PUMS) as my main dataset. The term *research design* includes all decisions in terms of planning and conducting research (Rubin & Babbie, 2008). In this section, I use the term primarily in explaining a quantitative approach to the research questions and introducing the main dataset of this study. Researchers choose between qualitative methods and quantitative methods according to the research purposes and philosophical assumptions (Rubin & Babbie, 2008). Since this study pursues generalizable findings about productive aging among East Asian immigrants, not depth of understanding (Rubin & Babbie, 2008), the method of the research inquiry is quantitative using an existing dataset. Secondary analysis refers to a subsequent study reanalyzing a dataset collected and processed in one study, and the purpose of the analysis depends on the area of interest of the particular researcher (Rubin & Babbie, 2008).

Although secondary datasets can have limitations in terms of accordance with area of interest, validity, and reliability, they also has advantages in terms of time and cost efficiency, accessibility to hard-to-identify populations, large sample size, and representativeness of sample and technological development (Rubin & Babbie, 2008). Those advantages cause more researchers to use secondary datasets than before (Rubin & Babbie, 2008). There are secondary datasets that have potential for analysis of productive aging: American Community Survey Public Use Microdata Sample (ACS PUMS), American Time Use Survey (ATUS), and Current Population Survey (CPS). These three secondary datasets are concerned with characteristics related to productive activities and older immigrants in the United States. Of the three datasets, ACS PUMS is the main dataset of this study.



The Bureau of the Census offers one of the representative secondary dataset in the United States through Public Use Microdata Sample (PUMS), which is based on, at best, 5% of the whole population in the United States (Conway & Rork, 2010). The purpose of PUMS is to enable census data users to make their own estimates and offer individual weights, which improves the representativeness of the dataset (Conway & Rork, 2010; Griffin & Waite, 2006). PUMS users can create estimates and combine aggregate indicators according to their purposes (Parrado & Kandel, 2011). The ACS offers “accurate and timely demographic and economic indicators through the decade for federal, state, and local governments. It promises to produce a video of your community through time, not a frozen snapshot every decade (Hough & Swanson, 2006, p.258).” The purpose of the ACS is to “(1) eliminate the need for a long form sample in Census2000, and, (2) give data users more current survey data to satisfy their needs (Griffin & Waite, 2006, p.203).” Since the census offers a decennial sample, this decennial dataset is not reflective of recent change (Griffin & Waite, 2006). In order to meet the stakeholders’ demands, the American Community Survey (ACS) opened its first set of estimates covering all populations in 2010, and data users can create up-to-date datasets from the census through the ACS PUMS dataset (Griffin & Waite, 2006; Lee, 2011).

The ACS includes information on all cities, counties, and metropolitan areas with a population of 65,000 or more (Hough & Swanson, 2006; Lee, 2011). The ACS shows information changing over time, not a simple snap shot at one point in time in the census long form (Census LF) (Hough & Swanson, 2006). Continuous measurement of the ACS is better than Census LF in that it reduces the cost and extends coverage of Census LF. This is because the continuous measurement of the ACS creates the Master Address File (MAF), which is useful to confirm a major reduction in content and select survey sample (Griffin & Waite, 2006). In

other words, MAF reflects questionnaires with low response rates and respondents who are not willing to participate in the Census. ACS completed its pilot study through mail, telephone, and personal visits from 1995 to 1996 in four test sites in Florida, New York, Oregon, and Pennsylvania, conducted at the time of Census 2000, and it replaced Census LF in Census 2010 (Hough & Swanson, 2006; Griffin & Waite, 2006). However, there are differences between ACS and Census LF in terms of major areas of interest such as demographic, social, economic, and housing characteristics (Hough & Swanson, 2006). Currently, users can download 1-year, 3-year, or 5-year ACS dataset. The ACS dataset shows demographic characteristics, economic characteristics, social characteristics, housing characteristics, and financial characteristics (United States Census Bureau, 2008). I can find information about East Asian immigrants in terms of demographic characteristics, information about paid work in economic characteristics, and information about caregiving in social characteristics. This study uses 5-year ACS data, 2006-10 ACS PUMS, as a main dataset in order to secure bigger sample size.

Both Current Population Study (CPS) and American Time Use Study (ATUS) are conducted and published by the Bureau of Labor Statistics (BLS) (Frazis & Stewart, 2009). The CPS is one of the main economic household surveys used by the federal government (Frazis & Stewart, 2009). The CPS includes information about labor force, employment, unemployment, persons out of the labor force market, hours of work, earning, and demographic characteristics (Labor Force Statistics from the Current Population Survey, 2011). The CPS has a large sample size, is representative of the population aged 16 and older, and is a cross sectional study (Frazis & Stewart, 2009). The CPS has information about older adults who were born in Asia and provides personal status about not only paid work but also volunteering (Labor Force Statistics

from the Current Population Survey, 2011). However, CPS has a smaller sample size than ACS PUMS, and it has less information about productive activities than ATUS.

The ATUS focuses on how time is spent by Americans and the ATUS sample is stratified from the CPS sample (Frazis & Stewart, 2009; Tudor-Locke, Washington, Ainsworth, & Troiano, 2009). The ATUS data is collected by software dealing with about 438 primary activities obtained through phone interview, and there are 17 major categories of activities, such as personal care, household activity, sports, exercise, and recreation and traveling (Tudor-Locke et al., 2009). The ATUS includes specific information about all five categories conceptualized as productive activity before such as paid work, volunteering, caregiving, and informal assistance behavior for society and themselves. For example, the category of household activities has information about specific housework, such as lawn, garden, houseplants and household management, with the frequency and hours spend on each activity in the ATUS (Tudor-Locke et al., 2009). Since demographic information, such as age and race, comes from earlier the CPS interviews (Bureau of Labor Statistics, 2011b), the ATUS also offers demographic information related to immigration experiences.

However, the ACS PUMS dataset is the most useful in terms of sample size among the three datasets and covers a representative sample reflecting foreign-born older adults in East Asia (Lee, 2011). In the dataset of 2010 ACS 5-year estimates without weights, the number of older adults 60 years and older in the ACS PUMS dataset estimates 52,503,576 and the number of foreign born in East Asia 65 years old and over estimates 18,939 (United States Census Bureau, 2011b). CPS includes a sample of 38,706 participants who were 65 years and over in 2010, and the older adults 65 years old and over who are not white and black or African American are 1,973 (Bureau of Labor Statistics, 2011a). When I select older Asian immigrants

on the CPS, the sample size will be much smaller than 1,973. ATUS is the worst among three datasets in terms of sample size and a valid response rate. In the 2003-11 ATUS multi-year Microdata, there are 50,766 participants over age 50; there are 37,483 native White Americans 50 years old and older, and; there are 240 East Asian immigrants 50 years old and older. In addition, although ATUS is the only secondary dataset covering four categories of productive activities with detailed information, the average valid response rate is low. For instance, of ATUS respondents over 50 years old, 45,635 (89.9%) did not participate any types of caregiving activities; 43,193 (85.1%) did not participate in any types of informal assistance; 36,254 (71.4%) did not participant in paid work activities; and 46,747 (92.1%) did not participate in volunteer activities according to the 2003-11 ATUS multi-year Microdata.

Although the ACS PUMS dataset includes longitudinal datasets from the U.S. Census, this study focuses on cross-sectional aspects of productive aging among older East Asian immigrants due to the exploratory purpose of this study. This cross-sectional study can be the cornerstone of future studies about in-depth characteristics of productive aging across countries. For example, based on this study, a researcher in the future can compare the productive aging of older immigrants in the United States with native older adults in China, Korea, and Japan, since those countries also have census systems.

### Target Population

The main target population of this study is older East Asian immigrants. In this study, East Asian immigrants refer to foreign-born people in the United States, especially those who were born in China, Korea, and Japan. Although people who are between 55 and 64 years old can be considered as “near old” (Morris & Caro, 1995), previous studies dealing with the aging workforce often use 55 years old as the cut-off point for the older population (Costa & Sartori,

2005; Denton & Spencer, 2009; Lankin, 2009; Noonan, 2005; Rogers et al., 2011; Rudman & Molke, 2009; Silverstein, 2008; Walker, 2006). Empirical research about productive aging or productive activities such as volunteering and caregiving often refer to older adults as those over the age of 55 (Bass, 1995; Butrica, Johnson, & Zedlewski, 2009; Carr, 2009; Fernandez-Ballesteros, 2011; Gonzales & Morrow-Howell, 2009; Hinterlong & Williamson, 2006; Morrow-Howell & Greenfield, 2010; Ozanne, 2010; Piercy et al., 2011; Uesugi, 2010; van Groenou & van Tilburg, 2012; Warburton & Grassman, 2011; Warburton et al., 2007). This study uses 55 years old as the cut-off point for the aging population. By including the near old or early old group, this study extends the scale of productive aging and secures a larger sample size. In the 2006-2010 ACS PUMS dataset, there are 117,225 people over age 55; there are 38,901 East Asian immigrants 55 years old and older. The detailed process of data sampling for this study is explained in the next section, *Data Collection and Sampling Procedure*.

### Data Collection and Sampling Procedure

This section explains the process of data collection and sampling procedures of the ACS PUMS dataset. The ACS sample is county-equivalents and selected from every county in the United States. There are three modes of data collection from ACS housing units. Since 2006, the ACS sample has been designated through group quarters (GQs) using correctional facilities such as college dormitories, nursing homes, and military barracks. People in GQs and people in housing units (HUs) are included in the ACS estimates for each year based on the total population. Data collecting for HUs uses the Master Address File (MAF), which is a database including residential and commercial addresses in the United States and Puerto Rico. There are three modes of data collection for HUs. In the first month of data collection, Mailout/Mailback uses addresses of the respondents who can receive a questionnaire via the U.S. mail and it takes

three months to collect data. In the second month, all mail non-responding addresses with a valid phone number are interviewed through Computer Assisted Telephone Interview (CATI). In the third month, Computer Assisted Personal Interview (CAPI) is used to interview respondents who cannot be interviewed by the first or the second method.

The ACS HUs are composed of Main and Supplemental samples. Approximately 99% of main sample was selected during the summer previous the sample year. A supplemental sample, approximately 1% of the main sample, was selected in January and February of the sample year. In the first-phase sample selection, all addresses used in the past four year were excluded and 20 % addresses are selected systematically. Each new address was scientifically assigned to either the current year or to one of the four back-samples. Thus, there are five equal samples of universe in the procedure. The blocks were assigned to a second-stage sampling stratum for main samples according to ACS sampling strata. After ACS calculated the second-stage sampling rates for main sampling, a systematic sample of addresses was allocated to a second-stage sampling stratum within each county; then all sample addresses were randomly allocated to a sample months from May to December. In the second-phase of sample selection, non-responding addresses was subsampled for the CATI phase of data and subsequently for the CAPI phase of data (American Community Survey, 2011).

The GQ sampling frame consisted of three strata: The first strata was for a small GQ with 15 or fewer people based on Census 2000 or updated information; the next strata was for GQs closed on Census Day 2000; the last strata was for GQs with at least 15 people based on Census 2000 or updated information. The first two strata were combined into a sampling stratum, organized geographically, and then randomly assigned to one of five partitions of the universe, which was composed of more than five period, each equally one year, such as 2010, 2011, 2012,

2013, and 2014. The large GQs were selected for sampling each year through a systematic probability proportional to size. Then, all small/large GQ samples were randomly assigned to the 12 panel months. If the number of persons in the GQ is under 15, all the people in the GQ would answer the survey; if the number of persons in the GQ exceeds 15, 10 in the GQ would answer the survey.

The 2006-2010 ACS PUMS dataset has the same sample found in the years from 2006 to 2010 and include five percent of the HU persons and four percent of the GQ persons. Answers of HUs were arranged within each state according to the ACS weighting area, interview mode, type of vacant, tenure, building type, household type, demographics, county, tract, and housing unit weight. GQ persons were arranged within each state by the size of their GQ, the type of their GQ, demographics, county, tract, and GQ person weight (United States Census Bureau, 2008).

In order to create my final dataset, I downloaded the 2006-2010 ACS PUMS dataset via DataFerrett, which is a useful program for customizing data from huge ACS as a user's demands. In order to get my dataset, I selected the 2006-2010 5-Year Estimates-Public Use Microdata Sample in the American Community Survey folder. The data contain four topics: housing, selectable geographies, population, and replicate weights. Of the topics, I selected housing and population and then searched variables. After selecting the variables, I downloaded the datasets as a "csv" file and opened the file with Microsoft Excel 2010. And then I selected the target population using SPSS 17.0. The initial sample size was 43,735 and the final sample size is 30,846.

### Measure Development

This section includes the process of operationalization to measure productive aging, and explains the process of screening data and introduces independent, dependent, and control variables in this study.

#### Operationalization.

This section explains how productive aging is operationalized. In the field of social science, researchers are interested in social phenomena and social values. Social scientists seek to find evidence supporting their perspectives toward social phenomena and problems in order to analyze and improve our lives. It is important to translate unobserved things into observed terms, especially in quantitative research. Operationalization refers to the process of the translation, and a researcher can observe particular concepts to measure abstract variables through operationalization (Rubin & Babbie, 2008). Rubin and Babbie (2008) explain operationalization by showing the progression of measurement steps in scientific study. This progression is as follows: (1) conceptualization, (2) nominal definition, (3) operational definition, and (4) measurement in the real world (Rubin & Babbie, 2008). Since productive aging is a comprehensive term, it is necessary to operationalize the term for the purpose of research. I will describe the process of operationalization of productive aging based on previous research according to the first three of the above four measurement steps.

In the first step, I discuss the initial conceptualization of productive aging to apply the term to structured research (Rubin & Babbie, 2008). Productive aging can be explicated into two subordinate concepts, productivity and aging. A standard definition of productivity is the forming of goods or services (Herzog & House, 1991). Productive aging refers to an array of activities through which older people contribute to themselves, others and society. This is



possible by doing productive activities in later life (Hooyman & Kiyak, 2011; O'Reilly & Caro, 1995; Ranzijn, 2002). Since aging occurs in the multiple dimensions, I can define whether a person is old or not through chronological age, biological age, social age, and psychological age (Hoyer & Roodin, 2009). However, this study chooses chronological age as the critique of older adults because of the characteristics of dataset.

In the next step of the nominal definition, I focus on an observational strategy and specify the concept of productive activity from the previous step (Rubin & Babbie, 2008a). Older adults' contribution to producing goods or services in society is specified to productive activity, which comprehensively includes paid work, volunteer work for community and organization, caregiving for relatives, neighbors, and family members with disabilities and grandchildren (Bass & Caro, 2001; Dosman et al., 2006; Jung et al., 2010), do-it-yourself activities (Baker et al., 2005), and informal social assistance (Hinterlong et al., 2007). Because of the restrictive variables in the ACS PUMS dataset, this study focuses on two categories of productive activities among older East Asian immigrants based on an initial conceptualization of productive aging: paid work and caregiving for grandchildren.

In the last step, I must specify exact points about what I observe and how I measure productive activities based on empirical research (Rubin & Babbie, 2008a). Productive activities can be measured by using the total number of productive roles and the average time commitments to the activities (Baker et al., 2005; Dosman et al., 2006; Hinterlong et al., 2007). The number of activities may be observed under each category or a total number of activities regardless of the types of productive activities. The commitment time of activities would depend on a critique of time, such as average time spent per day, week, or year. I analyzed the variables through the 2006-10 ACS PUMS dataset.

Variable.

*Dependent variables* The dependent variables are as follows: paid work and caregiving for grandchildren and participation in at least one of these two productive activities. In the 2006-10 ACS PUMS dataset, four questions were asked to measure working hours. Two of the four questions were about the time of arrival at work and the time of departure from work. The question about the time of arrival at work subdivided 24 hours into 285 scales by every 5 minutes, and the other question about the time of departure from work subdivided 24 hours into 160 scales by every 30 minutes. Although I can get detailed information about the time of arrival and departure for work, I did not use these two questions as my dependent variables, because the questions use different time units (5 minutes and 30 minutes). Also, participants answered by giving the usual hours worked per week during the past 12 months with the continuous numbers from 0 to 99 and answered the weeks worked during the past 12 months within 7 ranges of weeks, such as 50 to 52 weeks, 48 to 49 weeks, 40 to 47 weeks, 27 to 39 weeks, 14 to 26 weeks, and 13 weeks or less. Of these two questions, I selected the usual hours worked per week during the past 12 months as my first dependent variable, because it is a continuous variable.

Figure 7: Operationalization for productive aging

<i>conceptualization</i>	Productive aging	
1) Name		
▼		
2) Explication	Productivity is considered as individual or collective creation of product or service over a given unit of time in economics (Herzog et al, 1991). In the broader perspective, the definition of productive activity includes both labor market activities and the activities that produce valuable goods and services not traded in the market (Dosman et al, 2006). A productive activity is not only paid work including regular and irregular labor force activity but also unpaid work including unpaid volunteer services, caregiving, and providing of informal social assistance at home, communities, or society (Baker et al, 2005).	
▼		
<i>Empirical concept</i>		
3) Empirical Definition	The productivity could be the quality or state of being productive. When someone decides whether an activity is productive or not, he or she thinks how valuable the activity is. Empirical conceptualization is done by looking at some observable indicators: working three hours a day at Wal-mart, participating in events once a week at church, caring for grandchildren all the time at home.	
▼		
4) Nominal Definition	Paid work ( formal or irregular work)	Caregiving for grandchildren
▼		
<i>Operational definition</i>		
5) Variable	The East Asian immigrants 55 years old and older average commitment time to the activities over last week, last month, or last 12 months in the 2006-2010 ACS PUMS dataset.	

In addition, there are three questions related to grandparents' caregiving for grandchildren in the 2006-2010 ACS PUMS dataset: grandparents living with grandchildren, grandparents responsible for grandchildren, and length of time responsible for grandchildren. Since the first two variables of the three are dichotomous, yes or no, I selected the lengths of time responsible for grandchildren, which consisted of five ordinal scales, (1) less than 6 months, (2) 6 to 11 months, (3) 1 to 2 years, (4) 3 to 4 years, and (5) 5 or more years. I used the other two questions to judge the valid participants who live with grandchildren or have responsibility for their grandchildren.

*Independent variables* Independent variables are composed of questions about immigration experiences and the level of acculturation in the ACS PUMS dataset. In order to measure immigration experiences, I selected the questions about year of entry and citizenship status. In this study, I created the length of immigration through the difference between the year of the interview and the year of entry into this country. Also, I created the new dichotomous variable by transforming the citizenship status such as (1) born in the United States, (2) born in Puerto Rico, Guam, the U.S. Virgin Islands, or the Northern Marianas, (3) born abroad to American parent(s), (4) U.S. citizen by naturalization, and (5) not a citizen of the United States, into "U.S. citizen by naturalization" and "Not a citizen of the U.S." In order to measure the degree of acculturation in the secondary dataset, I selected three questions, such as the language spoken at home, the year of entry, and age. I created a question from the results of an inquiry about language spoken at home and calculated the proportion of life spent in a host culture based on the year of entry and age. Native language spoken at home shows a low level of acculturative behaviors which are often barriers to adapting to the host culture (Shim & Schwartz, 2008; Son & Kim, 2006).

*Control variables* In order to focus the relationship between independent variables and dependent variables, I used control variables with demographic variables, such as gender, age, marital status, education, family income, and number of persons in family, and workers in family during the past 12 months. Age, living arrangement, family income, and workers in family during the past 12 months are continuous variables; gender (male or female) and the marital status (married, widowed, divorced, separated, or never married) are categorical variables. Education is an ordinal variable showing the level of educational attainment such as high school graduate, Bachelor's degree, Master's degree, and doctorate degree. Family income is the sum of the labor income, retirement income over the past 12 months, supplementary security income over the past 12 months, and social security income over the past 12 months.

### Data Screening

This section explains the process data cleaning by eliminating errors, which can compromise results (Rubin & Babbie, 2008). The first step in cleaning my dataset was to examine the range of values of potential variables by using frequency distributions and descriptive statistics. Of the 30,846 cases, there were no missing data. Therefore, I focused on normality and linearity, which are important assumptions involved in multivariate statistical testing (Mertler & Vannatta, 2002).

*Skewness* and *kurtosis* are statistical options for assessing univariate normality. Skewness presents the degree of symmetry of a distribution about the mean; kurtosis shows the degree of peakedness of a distribution (Mertler & Vannatta, 2002). Generally, the acceptable values of skewness and kurtosis lie between +1 and -1 (Mertler & Vannatta, 2002). According to the values of skewness and kurtosis, most of the variables were normally distributed except for "the length of time responsible for grandchildren" and "family income." The skewness of the first

variable was 9.599 and the kurtosis was 94.632. The skewness of the second variable was 3.668 and the kurtosis was 25.478. These extreme values show that these two variables are not normally distributed. “The length of time responsible for grandchildren” consisted of five scales such as 0, less than 1 year, 1 to 2 years, 3 to 4 years, and 5 or more years. However, only 1.6% of the participants spent their time in taking care of their grandchildren. Thus, based on the two dependent variables of paid work and caregiving for grandchildren, I created a bivariate variable to determine whether the participants participated in at least one productive activity or not. This dichotomous variable can be an alternative reflecting caregiving for grandchildren. “Family income” was collapsed into a categorical variable based on the result of quartiles. In regard to skewness and kurtosis, I removed “proportion of life in the United States” and “living arrangement.”

The assumption of linearity can be assessed by statistical measures of relationships such as *Pearson's r*, which shows the efficient of the correlation between two variables (Mertler & Vannatta, 2002; Rubin & Babbie, 2008). There were two extreme *Pearson's rs*: between “length of immigration” and “proportion of life in the United States” (*Pearson's r* = .954,  $p < .001$ ) and between “Living arrangement” and “Workers in family” (*Pearson's r* = .767,  $p < .01$ ). Also, I dichotomize “arrive in the United States as young or old” as a variable instead of “proportion of life in the United States” The critique determining whether a person is young age or middle age is 40 based on existing studies (Cohen, 2007; Williams, Sassler, Frech, Addo, & Cooksey, 2011; Yun & Lachman, 2006).

The final variables after data cleaning and transformation counts of two dependent variables: (1) paid work and (2) participation in productive activities; as well as four main independent variables: (1) length of immigration, (2) citizenship, (3) language, and (4) arrival

age in United States Socio-demographic variables were considered as control variable included: (1) gender, (2) age, (3) marital status, (4) education, (5) family income, and (6) number of workers in family. Table 1 presents the final dependent, independent, and control variables in this study.

Table 1: Variables

Variable	Conceptual Definition	Measurement
<i>Dependent Variables: Productive Activities</i>		
Paid work	Regular and irregular labor force activity	Usual hours worked per week past 12 months
Participation in productive activities	Participation in at least one productive activity (paid work or caregiving grandchildren)	0. none participation 1. one or more participation
<i>Independent Variables: Immigration Experiences and Acculturation</i>		
Length of immigration	How long a person lives in the United States	The year of entry – the year of interviewing ACS
Citizenship	Citizenship status in the United States	0. not a citizen of the U.S 1. U.S. citizen by naturalization
Language	Language preference	0. native language 1. English
Arrival age in the United States	Arrive in the United States as young age or over middle age	0. before 40 years old 1. after 40 years old

(Continued)

Table 1: Variables (continued)

Variable	Conceptual Definition	Measurement
<i>Control Variables: Socio-demographic Variables</i>		
Gender	Respondent's gender	0. male 1. female
Age	Respondent's age	Age
Marital status	Respondent's marital status	0. Single 1. Married
Education	Highest level of education attained by a respondent	1. No schooling completed 2. Grade 1 - Grade 8 3. Grade 9 – Grade 12 4. Some college or Bachelor's degree 5. Master's degree or more
Family income	Respondent's annual household income (Labor income + retirement income + supplementary security income + social security income + interest, dividends, and net rental income)	1. < \$ 47,200 2. \$47,201 - \$134,999 3. \$135,000 - \$264,719 4. > \$264,720
Living arrangement	The number of family members living in household	1. 1 2. 2 3. 3 4. 4 and more



### Data Analysis Strategies

This section presents the specific plan used for analyzing the dataset. To answer the research questions, I performed three main analytic procedures. The first step involved *univariate analysis* using the Statistical Package for Social Sciences (SPSS) 17.0 in order to examine the distribution of cases on a single variable. I summarized all independent, dependent, and control variables with their frequencies, means, medians, and standard deviation in order to understand the characteristics of the study population in the next chapter. In addition, *bivariate analysis* with correlation analysis was carried out in order to understand associations and to anticipate linearity between variables using Pearson  $r$ , Pearson chi-square and Spearman  $Rho$ .

Based on the bivariate analysis, I moved to *multivariate analysis* describing more than two variables at one time in order to examine the relationships between independent variables and dependent variables (Rubin & Babbie, 2008). *Multiple regressions* are used to analyze the “collective and separate effects of two or more independent variables on one dependent variable (Pedhazur, 1997, p33).” My goal is to present equations for the line describing the relationships for a set of independent variables and dependent variables. In the first step of multivariate analysis, I assessed the relationship between an independent variable (length of immigration, citizenship, language, or arrival age in the United States) and a dependent variable (paid work) while controlling socio-demographic elements. I used stepwise multiple regression using the Stepwise Method in the SPSS software in order to determine which specific independent variables had significant influences on the overall prediction (Mertler & Vannatta, 2010). The second dependent variable is participation in productive activities, which is dichotomous. Thus, logistic regression was used to analyze the independent variables’ relative influence on a dichotomous dependent variable, participation in at least one productive activity. The logistic

regression was analyzed through the Backward Stepwise function in SPSS in order to assess the level of independent variables' contribution to overall prediction.

Categorical variables express a subject's conditions in type or kind, not in exact degree. Prior to performing multiple regression procedures, I recoded three polytomous variables (education, family income, and living arrangements) into reference variables and dichotomous variables according to the *dummy coding*, which assigns the subjects of one group into 0 and all others into 1. The purpose of this procedure was to explain a set of mutually exclusive categories more exactly (Pedhazur, 1997).

Also, I examined any *outliers*: "a data point distinct or deviant from the rest of the data (Pedhazur, 1997, p45)." Pedhazur (1997) illustrated three approaches to the detection of outliers based on residual analysis: *Standardized Residuals* (ZRESID), obtained by dividing the raw residuals by the standard error of the estimate of covariance between *X* and *Y*; *Studentized Residuals* (SRESID) in order to avoid the untenable assumption that all residuals have the same variance; and *Studentized Deleted Residual* (SDRESID) in order to reduce the risk of failing to identify an outlier. In addition, an influential case has a larger impact on the calculated values of a diverse estimate than is the case for most of the others; it is a special type of outlier (Pedhazur, 1997). In order to run correct regression diagnostics, I used both Studentized Deleted Residual (SDRESID) for detecting outliers and Leverage for detecting influential cases. Furthermore, multicollinearity should be examined in that collinearity has "the potential adverse effects of correlated independent variables on the estimation of regression statistics (Pedhazur, 1997, p.294)." In order to diagnose collinearity, I checked the correlation matrix between two variables, and then, I checked the VIF and tolerance to identify a particular independent variable that is highly collinear with the others.

### Chapter Summary

In this chapter, I reviewed two research questions and the quantitative research design. This quantitative research used a secondary dataset, 2006-2010 ACS PUMS dataset. In the cross-sectional ACS PUMS dataset, I selected participants aged over 55 years old who were born in East Asia. In this study, the dependent variables are paid work and participation in productive aging; independent variables are length of immigration, attainment of citizenship, language preference, and arrival age in the United States; socio-demographic variables are considered as control variables. This study used the following data analysis strategies: descriptive analysis, correlation analysis, multiple linear regression analysis and logistic regression. The findings of the quantitative research are reported in Chapter 4.

## CHAPTER 4

### RESEARCH FINDINGS

Chapter 4 includes the results of the quantitative analysis. Highlighted in this chapter are descriptive, bivariate, and multivariate findings from analyses of the ACS PUMS dataset focusing on the effects of immigration experiences on the productive aging of East Asian immigrants in the United States. First, I present the univariate procedures are presented to describe sample socio-demographic characteristics, quantify productive activities, and summarize selected immigration related variables. Second, bivariate analyses were used to describe the results of correlation analysis that explored the degree of the relationship between two variables. Last, multivariate logistic regression and multivariate linear regression were used to analyze the effects of immigration experience on commitment to productive activities.

The main study variables were divided into three categories: (1) dependent variables reflecting productive activity, in particular, paid work and caregiving grandchildren, (2) independent variables related to immigration experiences such as length of immigration, citizenship, language, and arrival age in the United States, and (3) control variables including socio-demographic characteristics, in particular, gender, age, marital status, education, family income, and the number of persons in the family. Based on the data screening procedure, some continuous variables were collapsed into categorical variables or dichotomous variables. The conventional alpha value of .05 (2-tailed) was used to evaluate statistical significance. To run the analyses in this study, the Statistical Package for the Social Sciences (SPSS) 17.0 was used.

### Univariate Analysis

The outcomes of the univariate analyses are described in the following order: socio-demographic variables, productive aging variables, and immigration experience variables.

#### *Socio-Demographic Characteristics*

The sample size for this study was 30,846 East Asian immigrants to the United States. The sample is reframed from the 2006-2010 ACSPUMS dataset. The unit of analysis in this study was individual East Asian immigrants aged 55 years and above. More than half of the respondents were female (58.7 %). Respondents' ages ranged from 55 to 94 years ( $M = 67$ , Median = 65,  $SD = 9.1$ ). Regarding educational attainment, 35.7% had earned at least a Bachelor's degree, and 30.9% studied at a high school. The majority of the respondents were married (73.1%). Although the mean family income was approximately \$196,000 (Median = \$135,000,  $SD \approx \$253,722$ ), the continuous variable was manipulated into an ordinal variable based on quartiles in order to maintain normal distribution. About 83.7% of the respondents lived with at least one or more family members. Table 2 shows information on the respondents' gender, age, education, marital status, family income, and living arrangement.

#### *Description of productive aging variables*

The second set of univariate analyses examined the main operationalized variables of productive activity among East Asian immigrants. Two main variables were examined: paid work and participation in productive activities. The first operationalized variable examined in this study was labor force activity through typical usual hours worked per week during the past 12 months. About 60.2% of the respondents participated in neither regular nor irregular labor force activity, and 39.8% of the respondents were committed to labor activity (Table 4).

Table2: Summary of frequency statistics for socio-demographic variables (n=30,846)

Variable	Category	Number (%)
Gender	Female	18110 (58.7)
	Male	12736 (41.3)
Education	No schooling completed	2,060 (6.7)
	Grade1 - Grade 8	3,876 (12.6)
	Grade 9 – Grade 12	9,524 (30.9)
	Some college or Bachelor’s degree	10,999 (35.7)
	Master’s degree or more	4,387 (14.2)
Marital Status	Single	8,303 (26.9)
	Married	22,543 (73.1)
Family Income (\$)	≤ \$ 47,200	7,710 (25.0)
	\$47,201 - \$134,999	7,703 (25.0)
	\$135,000 - \$264,719	7,722 (25.0)
	≥ \$264,720	7,711 (25.0)
Living arrangement (persons)	1	5,037 (16.3)
	2	13,372 (43.4)
	3	5,308 (17.2)
	4 and more	7,129 (23.1)
Age (years)	Mean (Standard Deviation) = 66.95 (9.098);	
	Median =65; Mode = 55 ;	
	Range (Minimum-Maximum) = 39 (55-94)	

Thus, the median and mode of this variable was 0, and the respondents' average hours spent in the labor market were 15.5 per week. Respondents who participated in labor force activity, they spent approximately 40 hours per week working at regular or irregular labor work positions (Table 3).

The second operationalized variable included not only paid work but also caregiving for grandchildren. Although the majority of the respondents engaged neither in paid work nor in caregiving for grandchildren, 40.9% of them were involved in either paid work or caregiving for grandchildren, or both activities.

Table3: Summary of descriptive statistics for productive activity (n=30,846)

Variable	Category	Number (%)
Participation in productive activities	None participation	18,238 (59.1)
	One or more participation	12,608 (40.9)
Paid work (hours)	Mean (SD) = 15.5 (20.991) ; Median = 0 ; Mode = 0; Range = 0-99	

Table4: Summary of descriptive statistics for participation in labor force activity (n=30,846)

Category	Number (%)	Frequencies
None participation	18,584 (60.2)	N/A
Participation in labor force activity	12,262 (39.8)	M=38.99; SD= 13.878; Median = 40; Mode = 40; Range = 1-99

Description of immigration experience variables

There are four variables that describe immigration experiences. Table 5 shows that the respondents from East Asia had lived an average of 28.8 years in the U.S and that 62% of them had immigrated when they were at least 40 years old. In other words, 38% of the respondents arrived in this country when they were young. The majority of the respondents (76.2%) had U.S. citizenship by naturalization. However, approximately 90 % of those from East Asia still preferred to use their native languages, for example, spoke Chinese, Japanese, and Korean at home instead of English. Overall, although the majority of East Asian immigrants over 55 years and older had lived in the United States for around 30 years as United States citizens, they still preferred to speak their native language when they met family members at home.

Table 5: Summary of descriptive statistics for the immigration experience and acculturation (n=30.846)

Variable	Category	Number (%)
Citizenship	Not a citizen of the U.S.	7,327 (23.8)
	U.S. citizen by naturalization	23,519 (76.2)
Language preference	Native language	27,835 (90.2)
	English	3,011 (9.8)
Arrival age in the United States	Before 40 years old	11,725 (38.0)
	After 40 years old	19,121 (62.0)
Length of immigration	Mean = 28.8 ; SD = 14.45; Median = 29; Mode = 30; Range = 1-91	



### Bivariate Analysis

Following the univariate analyses, the next step was to understand the relations between variables of interest in this study. Correlation analysis was used to understand connections and to verify linearity between two variables. *Spearman rho*, *Pearson r*, and *Pearson Chi-square tests* were used to conduct a correlation analysis.

#### *Bivariate Analysis: Socio-demographic Characteristics, Immigration Experiences/Acculturation and Paid work*

Bivariate tests were conducted to assess correlation between socio-demographic characteristics and paid work. Generally, a correlation coefficient that is less than 0.35 is considered to present a low or weak correlation, one from 0.36 to 0.67 moderate correlations, and larger than 0.68 a strong or high correlation (Taylor, 1990). In Table 6, all of the correlations are statistically significant. Although the coefficient between age and paid work [Pearson  $r=-.520$ ] and the coefficient between family income and living arrangement [Spearman  $\rho=.476$ ] show moderate correlations, overall correlation coefficients are less than 0.35. Thus, the degree of correlation between variables is acceptable.

Table 7 shows the results of correlation between independent variables and paid work. In Table 7, only the coefficient between language preference and paid work is not statistically significant. This is because 90% of respondents preferred to speak in their native language and because of relatively high skewness [2.712] and kurtosis [5.354]. Of independent variables, the correlation between length of immigration and arrival age in the United States is relatively high even after screening the dataset.

Table 6: Correlation between socio-demographic characteristics and paid work (n=30,846)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)	1	.035**	-.263**	-.205**	-.120**	-.129**	-.199**
(2)		1	-.251**	-.212**	-.308**	-.168**	-.520**†
(3)			1	.156**	.304**	.343**	.154**
(4)				1	.303**	-.092**	.256**
(5)					1	.476**	.399**
(6)						1	.059**
(7)							1

Note: (1) Gender (2) Age (3) Marital status (4) Education (5) Family income (6) Living arrangement (7) Paid work ; \*  $p < .05$ , two-tailed, \*\*  $p < .01$ , two-tailed; All correlation coefficients are based on *Spearman rho* except for † *Pearson r*

Table 7: Correlation between immigration experience/acculturation and paid work (n=30,846)

	(1)	(2)	(3)	(4)	(5)
(1)	1	.441**	.189**	.701**	-.04**†
(2)		1	.038**	.350**	.048**
(3)			1	.108**	-.007
(4)				1	.250**
(5)					1

Note: (1) Length of immigration (2) Citizenship (3) Language (4) Arrival age in the United States (5) Paid work; \*  $p < .05$ , two-tailed, \*\*  $p < .01$ , two-tailed; All correlation coefficients are based on *Spearman rho* except for † *Pearson r*

*Bivariate Analysis: Socio-demographic Characteristics, Immigration Experiences/Acculturation, and Participation in Productive Activities*

Bivariate results showed that only language preference is not associated with participation in productive activities. Gender, age, marital status, education, family income, living arrangement, length of immigration, citizenship, and arrival age in the United States were significantly associated with participation in productive activities. The following paragraphs detail these bivariate findings.

Considering the relationship between socio-demographic characteristics and participation in productive activities, my analysis showed association between gender and the dichotomous dependent variable [Pearson  $\chi^2(1, N=30,846) = 905.641, p<.001$ ; Cramer's  $V=.171$ ]. The proportion of males who participated in at least one activity was 51% compared to 33% of females participated in productive activities. Table 8 also shows a significant correlation between age and participation in productive activities [ $\rho(30,846) = -.558, p<.01$ ]. Marital status appears to be significantly associated with participation in productive activities [Pearson  $\chi^2(1, N=30,846) = 680.232, p<.001$ ; Cramer's  $V=.149$ ]. The proportion of single respondents engaged in at least one productive activity is 29% compared to 45% of married respondents who engaged in at least one activity. Table 9 also presents a statistically significant association between education level and the dichotomous dependent variable [Pearson  $\chi^2(1, N=30,846) = 1802.378, p<.001$ ; Cramer's  $V=.242$ ]. For example, the proportion of respondents who had never taken a class in school and participated in at least of one productive activity was 20% compared to 61% of respondents who had a master's or doctoral degree and participated in productive activities. Respondents' family income was also statistically related to their participation in productive activities [Pearson  $\chi^2(1, N=30,846) = 4529.574, p<.001$ ; Cramer's  $V=.383$ ]. For instance, the

proportion of respondents who had less family income than \$47,200 and participated in productive activities was 15%, but 66% of respondents with family income more than \$264,720 participated in productive activities. The more family income respondents had, the more they participated in at least one productive activity. Living arrangement and participation in productive activities also had a statistically significant association [Pearson  $\chi^2(1, N=30,846) = 560.469, p < .001$ ; Cramer's  $V = .135$ ]. Of the participating in productive activities, 30% of respondents living alone, 40% of respondents living with one more person or with three persons, and 53% of respondents living with two persons participated in at least a type of productive activity. Although socio-demographic characteristics and participation in productive activities were correlated, the results of Cramer's  $V$  showed the degree of correlation between two variables was not strong (Table 9).

Table 8: Pearson chi-square tests for socio-demographic characteristics and participation in productive activities (n=30,846)

	(1)	(2)	(3)
(1)	1	.168**	-.040**
(2)		1	-.558**
(3)			1

Note: (1) Length of immigration (2) Age (3) participation in productive activities; \*  $p < .05$ , two-tailed, \*\*  $p < .01$ , two-tailed; All correlation coefficients are based on *Spearman rho*

Table 9: Pearson chi-square tests for socio-demographic characteristics and participation in productive activities (n=30,846)

	Pearson Chi-square	Cramer's V
Gender	905.641***	.171
Marital Status	680.232***	.149
Education	1802.378***	.242
Family income	4529.574***	.383
Living arrangement	560.469***	.135

\*\*\*  $p < .001$ , two-tailed.

Participation in productive activities was statistically correlated with length of immigration, citizenship, and arrival age in the United States. In Table 8, there is statistically significant correlation between the length of immigration and participation in productive activities [ $\rho$  (30,846) = -.040,  $p < .01$ ]. In table 10, citizenship has a statistically significant correlation with participation in productive activities [Pearson  $\chi^2(1, N=30,846) = 35.976$ ,  $p < .001$ ; Cramer's V=.034]. The proportion of the respondents who had citizenship and participated in productive activities was 42%, but the proportion of the respondents who engaged in at least a productive activity without citizenship was 38%. Arrival age in the United States was positively related to participation in productive activities [Pearson  $\chi^2(1, N=30,846) = 1708.778$ ,  $p < .001$ ; Cramer's V=.235] : that is, 26% of respondents arriving in the United States before age 40 and 50% of respondents arriving after age 40 participated in at least one productive activity. Language preference does not have statistical correlation with participation in productive activities. The value of Cramer's V=.005 also suggests no association between language preference and participation in productive activities.

Table 10: Pearson chi-square tests for immigration experiences/acculturation and participation in productive activities (n=30,846)

	Pearson Chi-square	Cramer's V
Citizenship	35.796***	.034
Language preference	.930	.005
Arrival age in the United States	1708.778***	.235

Note: \*\*\*  $p < .001$ , two-tailed.

### Multivariate Analysis

In this study, multivariate linear regression and multivariate logistic regression analyses were used to assess the relative influence of immigration experience and acculturation on productive activity controlling for socio-demographic characteristics.

#### Multivariate linear regression: Immigration experiences/acculturation and paid work

This study used multivariate regression analysis with the function of *stepwise selection* in SPSS, in order to determine which independent variables contribute to predict a dependent variable when controlling for other factors. Stepwise multiple regression enters variables one-at-a-time to assess which variable will add the most accuracy in determining the significance of each independent variable in the regression equation (Mertler & Vannatta, 2010). The model used 14 steps to select and enter the variables that significantly improved the model. The level of significance was 5% (0.05) for a two-sided test. According to dummy coding, I created reference variables: “Master’s degree or more” for education, “more than \$264,720” of family income, and “4 and more” of living arrangement. In order to diagnose multivariate outliers, I used standardized residuals (ZRESID), studentized residuals (SRESID), studentized deleted residual

(SDRESID), and *Mahalanobis* distance square ( $D^2$ ). VIF and *tolerance* were used to identify collinearity. ZRESID, SRESID, and SDRESID were assessed through using the scatter plots and sort descending option in SPSS. Generally, the acceptable level of Mahalanobis distance depends on significance beyond  $p < .001$ . The value of VIF more than 10 and the value of tolerance near 0 cause collinearity concerns (Mertler & Vannatta, 2002).

Table 11 shows the process of creating the final model through stepwise selection. In the first step, age was entered, followed by the second step at which point age and gender were entered together. From the third step to the eighth step, age, gender, family income, and living arrangement were sequentially entered. In the ninth step, citizenship, age, gender, family income, and living arrangement were entered simultaneously. In the eleventh step, length of immigration was entered with citizenship, age, gender, family income, living arrangement, and marital status. In the final step, arrival age in the United States, length of immigration, and citizenship were entered with age, gender, family income, living arrangement, marital status, and education (no schooling and college degree). Regression results indicate that the iterations in the fourteenth step stopped without including language preference and two socio-demographic variables related to education level (grade 1-8 and grade 9-12). These excluded variables are not strongly associated with East Asian immigrants' participation in paid work when controlling for the other factors.

One important interpretation of the above stepwise selection process is that language preference was not statistically significant for improving overall prediction of respondents' paid work. The reason that language preference was excluded in the final linear regression model might be explained by the result of univariate and binary analysis. For example, only 10% of respondents preferred to speak in English, and the coefficient between language preference and

paid work is not statistically significant. In order to demonstrate the impact of language preference on productive activity, future research need to secure more subjects who preferred to speak in English.

Stepwise multiple regression led to the elimination of three predictors: language preference, grade 1-8, and grade 9-12. Regression results indicate an overall model of three independent variables (length of immigration, citizenship, arrival age in the United States) and eleven control variables (gender, age, marital status, no schooling, college degree, three levels of family income, and three levels of living arrangement) that significantly predict East Asian immigrants' paid work hours per week. This model has a regression equation model as follows:

$$\begin{aligned} \text{Paid work} = & 97.890 - 0.049 \times \text{length of immigration} + 1.786 \times \text{citizenship} - \\ & .005 + 0.836 \times \text{arrival age in the United States} - 7.690 \times \text{Gender} - 0.983 \times \text{Age} - 1.605 \times \\ & \text{Marital status} + (1.040 \times \text{no schooling} - 0.501 \times \text{college degree}) - (19.637 \times \text{less} \\ & \$47,200 + 11.981 \times \$47,201 - \$134,999 + 5.990 \times \$135,000 - \$264,719) + \\ & (14.255 \times 1 \text{ person} + 5.881 \times 2 \text{ persons} + 5.702 \times 3 \text{ persons}) \end{aligned}$$

According to the equation, while controlling for socio-demographic characteristics and other predictors, (1) for every 1-year increase in the length of residence after arrival, an East Asian immigrant's hour to paid work decreases by 0.049 hour; (2) an East Asian immigrant with U.S. citizenship spent 1.786 hours more than East Asian immigrants without citizenship on paid work activity; and (3) an East Asian immigrant who came to the United States before reaching age 40 spent 0.836 hour less than other immigrants who came to the country after reaching age 40. In the case of socio-demographic elements, more males than females, younger immigrants more than older immigrants, and more single immigrants than married immigrants tended to be



engaged in paid work. An East Asian immigrant who had no formal education spent more time on paid work than someone else who received a master degree or a doctoral degree. In contrast, an East Asian immigrant with a college education spent less time on paid work than someone else with a master degree or a doctoral degree. The more family income a respondent earned, the more time he/she spent in paid work, and the greater number of family members living together, the smaller the number of hours the respondent engaged in paid work.

A summary of the final regression model is presented in Table 12. Table 12 indicates that this regression model was statistically significant at  $\alpha=.05$  level ( $F=1392.113, p < .001$ ). Regarding  $R^2=.387$ , this model accounted for 38.7% of variance in East Asian immigrants' paid work hours per week. All tolerance values ranged from 0.301 to 0.919; and the variance inflation factor (VIF) values ranged from 1.062 to 3.320. This model, then, indicates no severe concern about collinearity. Also, according to the results of ZRESID, SRESID, SDRESID, and *Mahalanobis* distance square ( $D^2$ ), no extreme multivariate outliers appeared in this model.

The most interesting finding of this analysis is the direction of coefficient estimates of length of immigration and arrival age in this country. The results are opposite to hypotheses 1-1 and 2-2. According to these hypotheses, longer length of immigration positively affects paid work hours of East Asian immigrants. Considering the results of this model, the East Asian immigrants who spent more years in the United States might already have sufficient financial resources, so they might not need to participate in paid work. In other words, East Asian immigrants who entered the United States after age 40 might engage in paid work activity because they still feel financially unstable.

Table 11: Stepwise Multiple Regression for Immigration Experience/Acculturation and Paid work

Model	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Predictor														
Length of immigration	-	-	-	-	-	-	-	-	-	-	***	***	***	***
Citizenship	-	-	-	-	-	-	-	-	***	***	***	***	***	***
Arrival age in the U.S.	-	-	-	-	-	-	-	-	-	-	-	-	-	*
Language preference	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gender	-	***	***	***	***	***	***	***	***	***	***	***	***	***
Age	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Marital status	-	-	-	-	-	-	-	-	-	***	***	***	***	***
Education														
(Master degree and more)														
No schooling	-	-	-	-	-	-	-	-	-	-	-	**	**	**
Grade 1-8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grade 9-12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
College degree	-	-	-	-	-	-	-	-	-	-	-	-	*	*
Family income														
(> \$264,719)														
<\$47,200	-	-	***	***	***	***	***	***	***	***	***	***	***	***
\$47,201-\$134,999	-	-	-	***	***	***	***	***	***	***	***	***	***	***
\$135,000-\$264,719	-	-	-	-	-	***	***	***	***	***	***	***	***	***
Living arrangement														
(4 and more)														
1	-	-	-	-	***	***	***	***	***	***	***	***	***	***
2	-	-	-	-	-	-	***	***	***	***	***	***	***	***
3	-	-	-	-	-	-	-	***	***	***	***	***	***	***
(R <sup>2</sup> )	.267	.300	.320	.343	.364	.374	.378	.385	.386	.387	.387	.387	.387	.387

Note: – excluded predictor; \* $p < .05$ , two-tailed, \*\* $p < .01$ , two-tailed, \*\*\* $p < .001$ , two-tailed.

Table 12: Multiple linear coefficients for immigration experiences/acculturation and paid work

Predictor	B	Beta	t	Collinearity	
				Tolerance	VIF
Length of immigration	-.049	-.034	-4.168***	.303	3.297
Citizenship (no citizenship)	1.786	.036	7.197***	.785	1.274
Arrival age in the United States (before 40)	.836	.019	2.380*	.301	3.320
Gender (male)	-7.609	-.180	-38.637***	.912	1.097
Age	-.983	-.436	-68.442***	.489	2.047
Marital status (single)	-1.605	-.034	-5.556***	.533	1.875
Education					
(Master degree and over)					
no schooling	1.040	.012	2.660**	.919	1.088
college degree	-.501	-.011	-2.487*	.942	1.062
Family income					
(more than \$264,719)					
Less than \$47,200	-19.637	-.405	-57.897***	.406	2.463
\$47,201-\$134,999	-11.981	-.247	-43.604***	.619	1.615
\$135,000-\$264,719	-5.990	-.124	-22.419***	.654	1.530
Living arrangement					
(4 and more)					
1	14.255	-.124	22.419***	.654	1.530
2	5.881	.139	21.979***	.478	2.008
3	5.702	.103	18.658***	.658	1.520
(Constant)	97.890		91.518***		
(F=1392.113***)					
(R <sup>2</sup> =.387)					

\* $p < .05$ , two-tailed, \*\* $p < .01$ , two-tailed, \*\*\* $p < .001$ , two-tailed.

### Multivariate logistic regression

A multivariate logistic regression is a reasonable means to assess the relative effects of immigration experience and acculturation level on participation in productive activities. A forward stepping logistic regression was conducted to determine which immigration experiences/acculturation characteristics and socio-demographic variables in this study are associated with participating in at least one productive activity. The dependent variable, participation in productive activities, was coded as 0 = none participation and as 1= one or more participation (paid work, caregiving for grandchildren or both). A forward stepping logistic regression enters variables one-at-a time, through likelihood ratio estimates to determine which variables will add most precision in determining odds ratios to the regression model (Mertler & Vannatta, 2002). The statistical significance level of alpha was .05 (2-tailed).

The model used ten steps with the final step indicating that citizenship, gender, age, marital status, family income, and living arrangement added the most in order to accurately estimate odds ratios to the equation of participation in productive activities. Unlike the earlier multivariate linear test of paid work, this multivariate logistic test excluded three variables: length of immigration, arrival age in the United States and education. These excluded variables do not support estimate odds ratios for the likelihood of participation in productive activities while controlling for the other predictors. Table 13 shows the ten steps of forward logistic regression.

Table 14 shows the influence of citizenship on participation in productive activities while controlling for the effect of socio-demographic characteristics. This model had a logistic regression equation as follows:

$$\begin{aligned} \text{Logit } (p) = & 13.751 + 0.163 \times \text{Citizenship} - .985 \times \text{Gender} - 0.186 \times \text{Age} - 0.210 \times \text{Marital} \\ & \text{status} - (2.803 \times \text{less } \$47,200 + 1.355 \times \$47,201 - \$134,999 + 0.652 \times \$135,000 - \$264,719) + \\ & (1.958 \times 1 \text{ person} + 0.630 \times 2 \text{ persons} + 0.495 \times 3 \text{ persons}) \end{aligned}$$

According to the equation, while controlling for socio-demographic characteristics, the commitment of an East Asian immigrant with citizenship to paid work is 1.470 hours greater than the commitment hours of the others without citizenship. All socio-demographic predictors were statistically significant at the same alpha level of .05. For example, (1) the logged odds of participation in at least one productive activity for a female were 0.985 less compared to those of a male, (2) the logged odds for older respondents were less than for younger respondents, (3) the logged odds for married respondents were 0.210 less compared to those of single respondents, (4) the logged odds for a respondent who earned over \$264,720 were greater than those for the others, and (5) the logged odds for a respondent who lived with four or more persons were less than those for the others.

With all regression coefficients in the model set to zero, the omnibus significant test, known as the likelihood ratio, shows that the model was statistically reliable in predicting participation in productive activities or no productive activities ( $\chi^2(10) = 15212.580, p < .000$ ). The Cox & Snell's  $R^2$  (.389) indicates that the model accounted for 38.9% of the variance in participation in productive activities. The Nagelkerke  $R^2$  (.525) also shows that the proportion of variability in the decision to participation in productive activities is 52.5%. The overall model fit in Table 14 was not conclusive since the -2Log likelihood of 26515.688 was too high to indicate a perfect model fit (George & Mallery, 2006). However, the large sample size causes a large positive number of log ratio (Agresti, 2007). Thus, in this study, the large sample size ( $n=30,846$ )

might cause the large number of the -2Log likelihood. Considering Cox & Snell  $R^2$  and Nagelkerke  $R^2$ , the overall model fit is acceptable.

Classification results are presented in Table 15. The model correctly classifies 80% [(14,997+9,679)/30,846] of the total sample, 76.8% [9,679/12,608] of East Asian immigrants who participated in at least one productive activity and 82.2% [14,997/18,238] of East Asian immigrants who participated in neither paid work nor caregiving for grandchildren. This finding suggests that other factors not in the logistic regression model may help explain the decision to engage in productive activities. In other words, excluded variables (length of immigration, language preference, arrival age in the United States, and level of education) or the other factors might explain respondents' participation in productive activities.

In sum, when controlling for other predictors, the model could predict a respondent's typical hours worked per week for the past 12 months based on length of immigration, citizenship, and arrival age in the United States. More specifically, controlling for all other predictors, the longer a respondent lived in the United States, the less likely it was that he/she participated in paid work; a respondent with citizenship was more likely to engage in paid work than the others without citizenship; and a respondent who came to the United States after reaching age 40 was more likely than others to participate in paid work activities (Table 12). Also, participation in at least one productive activity could be predicted by citizenship status and socio-demographic factors including gender, age, marital status, family income, and living arrangement. A respondent who had United States citizenship was more likely than others to engage in commitments to paid work, caregiving for grandchildren, or both productive activities (Table 14).

Table 13: Forward Stepping Logistic Regression for Immigration Experience/Acculturation and Participation in Productive Activities

Model	1	2	3	4	5	6	7	8	9	10
Predictor										
Length of immigration	-	-	-	-	-	-	-	-	-	-
Citizenship	-	-	-	-	-	-	-	-	***	***
Arrival age in the U.S.	-	-	-	-	-	-	-	-	-	-
Language preference	-	-	-	-	-	-	-	-	-	-
Gender	-	-	***	***	***	***	***	***	***	***
Age	***	***	***	***	***	***	***	***	***	***
Marital status	-	-	-	-	-	-	-	-	-	***
Education (Master degree and more)										
No schooling	-	-	-	-	-	-	-	-	-	-
Grade 1-8	-	-	-	-	-	-	-	-	-	-
Grade 9-12	-	-	-	-	-	-	-	-	-	-
College degree	-	-	-	-	-	-	-	-	-	-
Family income (> \$264,719)										
<\$47,200	-	***	***	***	***	***	***	***	***	***
\$47,201-\$134,999	-	-	-	***	***	***	***	***	***	***
\$135,000-\$264,719	-	-	-	-	-	***	***	***	***	***
Living arrangement (4 and more)										
1	-	-	-	-	***	***	***	***	***	***
2	-	-	-	-	-	-	***	***	***	***
3	-	-	-	-	-	-	-	***	***	***
(Cox & Snell R <sup>2</sup> )	.303	.329	.349	.362	.378	.383	.386	.389	.389	.389
(Nagelkerke R <sup>2</sup> )	.409	.444	.471	.489	.510	.516	.521	.524	.525	.525

Note: – excluded predictor; \* $p < .05$ , two-tailed, \*\* $p < .01$ , two-tailed, \*\*\* $p < .001$ , two-tailed.

Table 14: Multivariate logistic regression analysis of length of immigration on participation in productive activities

Predictor	<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>OR</i>
Citizenship (no citizenship)	.163	.036	20.073***	1.178
Gender (male)	-.985	.033	918.594***	.373
Age	-.186	.003	5084.628***	.831
Marital status (single)	-.210	.049	18.120***	.811
Family income (more than \$264,719)				
Less than \$47,200	-2.803	.062	2041.701***	.061
\$47,201-\$134,999	-1.355	.042	1021.283***	.258
\$135,000-\$264,719	-.652	.041	256.211***	.521
Living arrangement (4 and more)				
1	1.958	.078	631.066***	7.086
2	.630	.040	242.639***	1.877
3	.495	.047	109.709***	1.641
(Constant)	13.751	.194	5005.283***	937077.824
(Omnibus Tests of Model Coefficients)			$\chi^2(10) = 15212.580$ ***	
(-2Log Likelihood)			26515.688	
(Cox & Snell $R^2$ )			.389	
(Nagelkerke $R^2$ )			.525	

\* $p < .05$ , two-tailed, \*\* $p < .01$ , two-tailed, \*\*\* $p < .001$ , two-tailed.



Table 15: Classification Table<sup>a</sup> for Participation in Productive Activities (n=30,846)

		Participation in at least a productive activity		Percentage Correct
		No	Yes	
Participation in at least a productive activity	No	14,997	3,241	82.2
	Yes	2,929	9,679	76.8
Overall Percentage				80.0

<sup>a</sup> The cut value is .500

### Chapter Summary

Chapter 4 presents the research findings. Results from this study demonstrate the relationships between East Asian immigrants' immigration experiences their productive activities, and acculturation and their productive activities. The results of univariate analysis summarized frequencies, mean, median, mode, and range of all predictors in this study. The results of bivariate analysis through correlation analysis indicate there are no concerns in the assumption of linearity. Also, overall, there were no strong correlations between predictors in this study. Next, I moved to multivariate analysis by using stepwise linear regression analyses and forward stepping logistic regression analyses in order to verify hypotheses. Of four main independent variables, the final linear regression model included length of immigration, citizenship, and arrival age in the United States; the final logistic regression model included only citizenship status as a statistically significant predictor. According to the value of F, the two models were statistically significant at the  $\alpha=.05$  level. According to the results of ZRESID, SRESID, SDRESID, *Mahalanobis* distance square ( $D^2$ ), tolerance and VIF, the linear regression model had no extreme outliers and no severe collinearity problems. The overall fit of the logistic regression model was acceptable considering the value of Cox & Snell  $R^2$  and Nagelkerke  $R^2$ .

## CHAPTER 5

### DISCUSSION

In this chapter, I discuss the key findings presented in Chapter 4. The discussion begins with an overall interpretation of the most important results related to immigration experiences, acculturation, and socio-demographic variables in relationship to productive activities of East Asian immigrants. This chapter also includes a description of the limitations of this study. Finally, I discuss implications for social work practice, social policy, and future research.

#### Discussion and Interpretation of Key Findings

This section explains the main results of this study. This section begins with overall univariate and bivariate results of dependent variables and control variables. Then, the main results related to independent variables are presented, based on the study's research questions. This study began with two dependent variables, four independent variables, and six control variables. The two dependent variables described productive activities, specifically paid work and caregiving for grandchildren. The 30,846 East Asian immigrants in the 2006-2010 ACS PUMS dataset spent an average of 15.5 hours on paid work per week, and about 60% of them participated in either paid work or caregiving for grandchildren or both. The length of immigration and citizenship were independent variables for explaining immigration experiences, and language preference and arrival age in the United States were used to illuminate acculturation. Control variables included gender, age, marital status, family income, level of

education, and living arrangements in order to control for socio demographic characteristics. The results of the bivariate analyses demonstrated statistically significant relationships between socio-demographic characteristics and East Asian immigrants' productive activities. For example, more male than female immigrants, more younger than older immigrants, and more single than married immigrants tended to be engaged in paid work. However, the degrees of the relationships were acceptable to maintain the assumption of linearity. In what follows, two research questions are used to organize this section focusing on the main results of the relationship between independent variables and the dependent variables.

*Research Question 1: How does the immigration experience of older East Asian immigrants impact their productive activities?*

From this study, East Asian immigrants' citizenship status had a statistically significant impact on paid work and caregiving for grandchildren. For example, the result of binary analysis showed citizenship status had a positive association with paid work and participation in paid work or caregiving for grandchildren. This result matched the results of regression analyses. According to the results of the linear regression and the logistic regression analysis, citizenship positively affected respondents' productive activities. In other words, East Asian immigrants with citizenship were more likely to participate in paid work or caregiving for grandchildren than the others without citizenship.

East Asian immigrants' length of immigration had a statistically significant impact on paid work activities. The result of binary analysis presented negative relationships between length of immigration and paid work corresponding to the results of linear regression analysis. For instance, East Asian immigrants who had spent most of their lifetime in the United States were less engaged in paid work than East Asian immigrants who had spent few years of their life

time in this country. However, length of immigration was excluded to estimate odds ratios for the participation in productive activities equation. The small Pearson  $r$  (-.040) might affect the elimination of length of immigration from the final logistic regression equation. Although the association between length of immigration and participation in productive activities was statistically significant, the small Pearson  $r$  means that there was no relationship between length of immigration and participation in productive activities. It means that the length of immigration is one of the minor factors influencing participation in productive activities and there might be other strong factors such as personal history, family culture, health status and financial situation.

*Research Question 2: How does the acculturation of older East Asian immigrants impact their productive activities?*

East Asian immigrants' arrival age in the United States had a statistically significant impact on their paid work hours per week. The results of binary analysis presented a positive relationship between arrival age in the United States and paid work. This result corresponded to the results of regression analyses: East Asian immigrants who migrated into the United States after 40 years old spent more time in paid work than the others who migrated into this country before 40 years old. However, arrival age in the United States was excluded from the final logistic regression equation for participation in productive activities. Arrival age in the United States was nested in the length of immigration and those two predictors had a relatively strong correlation (Pearson  $r=.701$ ). Considering the result of Pearson Chi-square test between arrival age in the United States and participation in productive activities [Pearson Chi-square=1708.778,  $p<.001$ , Cramer's  $V = .235$ ], arrival age in the United States might supplement the length of immigration. However, arrival age in the United States was also excluded from the final logistic

equation like the length of immigration and this situation might be related to the strong association between length of immigration and arrival age in the United States.

Language preference did not demonstrate how acculturation affects East Asian immigrants' productive activities. Language preference was not included in the linear regression equation for paid work or in logistic regression equation for participation in productive activities. In addition, language preference was the only independent variable without a statistically significant association with dependent variables. This might be because language preference was biased. To be specific, 90 % of respondents preferred to speak in their native language. Perhaps it is not actually a good proxy measure for the level of acculturation and it may capture a difference concept.

Overall, three independent variables (excluding language preference) were used to explain East Asian immigrants' productive activities. These results support Hypothesis 1: *the immigration experiences affect productive activities of older East Asian immigrants* and Hypothesis 2: *the degree of acculturation reflects an older immigrant's level of engagement in productive activities*. However, length of immigration did not support Hypothesis 1-1: *longer length of immigration is positively associated with productive activities of older East Asian immigrants*. Unlike Hypothesis 1-1, length of immigration was negatively associated with respondents' productive activities. Arrival age in the United States also did not support Hypothesis 2-2: *the proportion of life spent in the host culture based on the number of years spent in the United States is positively associated with an older immigrant's level of engagement in productive activities*. The direction of estimate of arrival age in the United States was negative, not positive (Table 16).

In this study, considering the results of stepwise selection of regression analysis, citizenship was the strongest predictor to explain East Asian immigrants' productive activities. From this result, I speculated that immigrants without citizenship may have limited opportunities to engage in paid work and they may tend to be exposed to financial crisis. Also, East Asian immigrants who spent less of their life-time in this country may be financially and culturally vulnerable compared to peer-age East Asian immigrants. In contrast, East Asian immigrants who spent more time in this country may have more time and resources to participate in productive activities. These results raise some questions: (1) how can social service providers and policy makers encourage East Asian immigrants who are well adapted to the United States to engage in this society? and (2) how can they help East Asian immigrants who lack resources adapt to this society? I believe the concept of productive aging may provide a partial solution to these questions. I will explain more about these issues in the implications section after discussing the limitations of this study.

Table 16: Statistical analysis results for hypotheses

Response variable	Method	Main Predictors	Hypothesis	Conclusion
Regular and irregular labor force activity	Linear regression	Length of immigration	1-1	Not supported (reverse direction)
		Citizenship	1-2	Supported
		Language preference	2-1	Not applicable
		Arrival age in the United States	2-2	Not supported (reverse direction)
		Overall predictors	1 and 2	Supported
Participation in at least one productive activity	Binary logistic regression	Length of immigration	1-1	Not applicable
		Citizenship	1-2	Supported
		Language preference	2-1	Not applicable
		Arrival age in the United States	2-2	Not applicable
		Overall predictors	1 and 2	Supported only 1-2



### Study Limitations

This section deals with research challenges and limitations in this study. The main limitations are related to the use of a cross-sectional secondary dataset.

#### Cross-sectional study

A cross-sectional study design has a limitation in that it cannot know causal processes occurring over time (Rubin & Babbie, 2008). The immigration and acculturation experiences accumulate over time and their effects on productive activities in later life are likely to occur over time. The use of a longitudinal study with time-series designs could help overcome the limitation of the use of cross-sectional study. Quantitative methods can contribute to understanding productive activities and the multidimensional aging process among East Asian immigrants in depth. Mixed methods could be another way to solve the limitation of cross-sectional study in that qualitative methods cover the dynamics of accumulated immigration experiences and life-long acculturation (Greene, 2007).

#### Problems of validity

When an existing dataset does not cover the researcher's definition of variables, he or she faces validity problems (Rubin & Babbie, 2008). In the process of operationalization of productive aging, I defined productive activities as older adults' average commitment time to the activities. The operational definition did not cover the general definition of productive aging because of the limited variables in the ACS PUMS dataset. The concept of productive aging means an array of activities through which older people contribute to themselves, to others, and to society and is explained by productive activities such as paid work, volunteering, caregiving, informal assistance, and education in later life (Hooyman & Kiyak, 2011; O'Reilly & Caro, 1995;

Ranzijn, 2002). Since the 2006-2010 ACS PUMS dataset included information about paid work and caregiving for grandchildren, this study dealt with only two types of productive activities. In addition, the question of caregiving for grandchildren consisted of five ordinal scales. The variable of caregiving for grandchildren offered limited information compared to paid work which consisted of a continuous number; also the two main dependent variables had different time units. For example, in terms of caregiving, the 2006-2010 ACS PUMS dataset provides simple information about the length of time older adults are responsible for grandchildren, consisting of an ordinal scale. Furthermore, in regard to the low response rate of caregiving for grandchildren, the variable might be underestimated. In this situation, the major challenge of validity is related to *construct validity* based on the way a measure links to other variables within a theoretical framework (Rubin & Babbie, 2008). For instance, this study concluded that East Asian immigrants with citizenship are more likely to participate in productive activities. However, if this study included another type of productive activities such as volunteering and informal assistances or if this study includes more valid cases of caregiving for grandchildren, the outcome might be different from the results in this study. In this case, this study would challenge the construct validity.

Independent variables may also have a similar problem of construct validity. For example, although immigration experiences are related to diverse dimensions of life such as physical, cultural, social, and psychological aspects, this study focused on uncomplicated aspects of the experiences such as length of immigration and citizenship (Shim & Schwartz, 2007). Although acculturation is also estimated by various factors such as food preference, friendship choice, and familiarity with native or host culture (Shim & Schwartz, 2008; Son & Kim, 2006), the ACS PUMS dataset offers limited variables such as language preference and length of residence in the

United States. Thus, I cannot disregard the possibility of underestimated issues related to the independent variables.

Of the socio-demographic variables, the ACS PUMS dataset provides high family income ( $M \approx 196,000$ ,  $SD \approx 253,722$ ). In this study, I define family income as the sum of labor income, retirement income, supplementary security income, social security income, and assets income. The high level of family income might be overestimated because of self-reporting. Also, around 40% of respondents lived with two or more family members. The co-arrangement with older parents and adult children might reflect a mutual financial dependence between family members in Eastern culture (Mui & Kang, 2006). Thus, the variable of family income might not show the exact net-income of respondents and consequently can cause validity problems.

The causality between dependent variables and independent variables can be estimated by controlling exogenous variables which can directly or indirectly influence the causality. In this study, important exogenous variables such as health status were disregarded because of the limited information in the ACS PUMS dataset. In sum, the secondary dataset's limited variables might decrease the level of validity in this study.

#### Problems of reliability

The ACS PUMS dataset has a limitation in terms of confidence intervals. Because of nonsampling errors, the estimated standard errors in the ACS PUMS dataset do not contain portions of the variability and the dataset's standard errors do not show the effect of correlated errors introduced by interviewers or coders. Also, the ACS PUMS dataset does not reflect the errors from imputed variables. In addition, the ACS PUMS dataset includes a manipulated confidence interval: negative values were set to zero by default and the upper limit of the confidence interval was set to its largest admissible value. Thus, confidential intervals may not

meet the stated levels of confidence such as 68%, 90% or 95% (American Community Survey, 2011). In this situation, the ACS PUMS users cannot be sure about the exact estimated standard errors. Generally, the larger the sample size is, the lower the standard error is, and the better reliability it is (Gravetter & Wallnau, 2004). Although the ACS PUMS dataset provides a large sample size, users are not sure of standard errors. Thus, while interpreting the results of this study, the limitation related to standard errors and confidence intervals should be considered.

### Limitation of theory

Three theories were used in an effort to understand the relationship between productive aging and the immigration experiences of the East Asian immigrants in the United States. For example, role theory guided the consideration of East Asian immigrants' roles as productive activities based on cultural expectation. Life-span theory was applied to interpret multiple and life-long immigration experiences among East Asian immigrants. Social exchange theory supported the older adults' productivity. In spite of the usefulness of these three theories to integrate the experiences of East Asian immigrants, this theoretical frame could have been strengthened by the inclusion of social capital theory, which refers to social relationships and social resources influenced by and exchanged among people in a network (Portes & Rumbaut, 2006; Zhou, 1997). Role theory covers the micro level and life span theory deals with the macro level. However, for productive activities of immigrants, it may be wise to rely not only on their individual characteristics and available social policy and services, but also on their use of social capital. For immigrants, social capital may be an important resource to settle in a new country (Kunz, 2005). If this study had included a consideration on social capital theory, it might have been able to draw more abundant implications from the results.

### Implications for Social Work

This section deals with implications for social work practice, social policy, social work education, and suggests follow up research based on the findings in this study.

#### *Implications for social work practice*

As mentioned, older East Asian immigrants are clients in the field of international social work and social workers in the field need to know about their clients' lives and cultures. The findings of this study will help to develop practical strategies for improving older East Asian immigrants' well-being. A somewhat surprising finding from this study was that East Asian immigrants who had spent most of their life in the United States were less likely to participate in paid work. This finding was opposite to hypothesis 1-1 and 2-2 which assumed a positive relationship between length of immigration and paid work. From this finding, I speculate that East Asian immigrants who came to this country when they were young might more easily adapt to American society compared to the others who came to this country after age 40. Thus, East Asian immigrants who spent most of their time in the United States might have more opportunities to accumulate financial and social resources. For example, considering life span theory and the result about paid work activities among East Asian immigrants, their life-long immigration experiences might positively influence having secure financial resources. Considering role theory, older East Asian immigrants who already have secured enough assets may no longer need to maintain the role of paid workers. The main suggestion from those interpretations is that East Asian immigrants who migrated into the United States when they were young might have extra time and resources to contribute to society. Social work practitioners need to think how to encourage this group to use their talents through productive

activities such as volunteering and informal assistances in the neighborhood and community. When social workers provide services for promoting productive activities among East Asian immigrants, cultural characteristics such as language preference should be considered.

### *Implications for social policy*

Although social work practice can provide appropriate social services for East Asian immigrants with enough social and economic resources, social policy needs to be modified to support vulnerable East Asian immigrants. For example, East Asian immigrants without citizenship cannot easily access social support or social security benefits (Nam, 2012). In addition, older noncitizens may have few opportunities to enter the regular labor market. The result of the negative association between citizenship and paid work hours per week supports this situation. Also, according to the results of multiple regression, East Asian immigrants who migrated into the United States after 40 years old tended to spend more time than the other group in paid work. Regarding the result of correlation analysis between length of immigration and citizenship, East Asian immigrants who spent less time in the United States were less likely to be naturalized. Thus, from those findings, although East Asian immigrants who spent less time in the United States participated more in paid work than the others who spent most of their life time in the country, I speculate that they, especially noncitizens, might have part-time jobs and might not have enough financial resources. Social policy makers need to have sensitivity to the culture and experiences of East Asian immigrants to improve their wellbeing. To expand social welfare benefits to noncitizens could be a way to improve their quality of life and to support their participation in diverse productive activities.

### Implications for social work education

Social work education should shape the profession's future through the education of competent professionals, as well as through the exercise of leadership within the professional community (Martin, Kosberg, Sun, & Durkin, 2012). The aging population and immigration population have become the main target populations in the field of social work, and students of this discipline need to understand their lives and needs in order to improve their well-being (Walker, 2005). In the face of current stereotypes and misconceptions toward aging and the older population, demands for geriatric social work education and services for older adults and their family members are increasing (Lee & Waites, 2006). Thus, social work education needs to identify the stereotypes toward aging and older populations, and educators should encourage social work students to be interested in the study of aging as the focus of their profession (Lee & Waites, 2006). The application of the element of productive aging of East Asian immigrants in social work education may be useful to understand their lives, challenges, and potentiality (Rogers et al., 2011). This study focusing on productive aging of East Asian immigrants is useful in that it presents the knowledge, particularly for social work practitioners and policy makers, that the immigration population has the potential to be actively engaged into the community and society. This point fits into the social work perspective on client strengths (Gutheil et al, 2009). Thus, the findings of this study can enhance the positive aspects of aging to help prepare social work students to assist older clients who migrated from East Asia.

### Implications for research

This study can contribute to developing a scientific concept as well as the theoretical and methodological backgrounds to guide follow up studies since the concept of productive aging is

a relatively new area of gerontology. Because social work research targeting East Asian immigrants is still undeveloped, this study can also guide future research in the field of social work. Social workers and gerontologists who do future research on productive aging of East Asian immigrants will need to analyze diverse productive activities, immigration experiences, and acculturation issues by conducting experimental studies and using longitudinal design with the time-series dataset. Using such quantitative elements, follow up studies may be able to describe any factors related to immigration experiences that determine the participation in productive activities as well as cultural characteristics that influence East Asian immigrants' unique patterns of productive aging. Also, qualitative or mixed method studies are necessary to understand older East Asian immigrants' talents, challenges, immigration history, and needs in depth. For example, the ethic of filial piety, which influences the overall lifestyle among older East Asian immigrants, is becoming westernized (Lo & Russell, 2007). This change may have an impact on living arrangements, social relationships, economic status, and family support among the immigration population. With these issues, future research should demonstrate older East Asian immigrants' needs and capabilities more fully. Social services and social welfare policies can be more appropriately designed and be more effectively improved based on the future research.

### Conclusion

Early in this dissertation, I reviewed the concept of productive aging by introducing the general issues of aging as well as productive activities in order to clarify the concept. I also illustrated East Asian immigrants' demographics, culture, and immigration history as well as social policy and international social work related to the group. This study makes a contribution to the knowledge base on the concept of productive aging by focusing on East Asian immigrants'



immigration experiences and cultural characteristics, as well as their productive activities such as paid work and caregiving for grandchildren.

The most central finding from this study is that immigration experiences and acculturation affected East Asian immigrants' productive activities. Although respondents migrated from East Asia and shared a common culture based on the ethics of Confucius, their productive activities differed from each other according to personal immigration experiences, age, gender, marital status, level of education, family income, and living arrangements. This finding demonstrated that the concept of productive aging reflects an aging population's activities and needs, as well as giving political and practical implications for the field of social work for this population (Bass & Caro, 2001). The most important implication of this study is that social work practitioners and social policy makers should have enhanced sensitivity to the diverse needs and characteristics among older East Asian immigrants. For example, East Asian immigrants can be divided into a well-protected group and a vulnerable group. Immigration experiences and cultural background are important factors influencing East Asian immigrants' various needs. The growing number of Asian population in this country also represents the possibility of using more Asian practitioners and policy makers who are familiar with Asian immigrants' culture in the near future.

However, this exploratory study analyzed only limited immigration experiences, cultural characteristics, and productive activities among East Asian immigrants. It is clear that much more research is needed on these diverse issues. Additional research and practice experience will hopefully provide a practical and political foundation for improving the immigrant population's quality of life and preparing for an aging society. Although there may be challenges to develop practical knowledge and a social system to secure older East Asian

immigrants' well-being, considering the growing number of older East Asian immigrants, such development will contribute to maintaining social justice. The concept of productive aging may provide a solution for understanding older adults' potentiality and their needs. An empathetic attitude or an understanding of what constitute a social agreement is essential to promote social integration. This study provides critical information that could become the baseline to develop the social agreement between the ethnic majority and the immigrant population. Thus, I also believe the concept of productive aging contributes to maintaining social justice by promoting social integration between ethnic majorities and ethnic minorities, and between younger populations and older populations.

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