ACCULTURATIVE STRESS AND DEPRESSIVE SYMPTOMS AMONG KOREAN IMMIGRANT ELDERS RESIDING IN NON-KOREAN ETHNIC ENCLAVES

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ACCULTURATIVE STRESS AND DEPRESSIVE SYMPTOMS
AMONG KOREAN IMMIGRANT ELDERS
RESIDING IN NON-KOREAN ETHNIC ENCLAVES

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Social Work
at the University of Kentucky

By
Stephanie Lyu Rhee

Lexington, Kentucky

Director: Dr. David Royse, Professor of Social Work

Lexington, Kentucky

2013

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ABSTRACT OF DISSERTATION

ACCULTURATIVE STRESS AND DEPRESSIVE SYMPTOMS AMONG KOREAN IMMIGRANT ELDERS RESIDING IN NON-KOREAN ETHNIC ENCLAVES

Few studies have examined the relationships among personal factors, acculturative stress, coping resources, and depression of Korean immigrant elders residing in areas without any Korean ethnic enclave. Based on the stress and coping model and the sociocultural model of stress, coping, and adaptation, this cross-sectional study examined the relationships among acculturative stress, coping, and depression in 111 non-institutionalized Korean immigrant elders aged 60 and older residing in areas without any Korean ethnic enclaves in three neighboring states of Southwestern Ohio, North Central Region of Kentucky, and Southern Indiana. A majority of convenience and snowball sample participated in self-administered mailed surveys, and a remaining few used phone surveys and personal interviews.

Multiple regression analyses indicate that social support is the strongest predictor of depression, followed by somatization and acculturative stress. Principal component analysis indicates that the participants appraised limited English proficiency as the most stressful aspect of acculturative stress. Path analyses further reveal that acculturative stress had the largest total effect on depression and partially mediated the effect of the level of acculturation on depression. The results also show that social support had the large direct effect on depression and partially mediated the effect of acculturative stress on depression. Unexpectedly, religiosity was not a predictor of depression and did not have any effect on depression. Interestingly, somatization had the positive direct effect on depression. This study suggests that the level of acculturation, socioeconomic status and social support may influence acculturative stress and depression negatively; however, acculturative stress is the most significant risk factor for depression among the participants, decreasing coping efficacy of social support and increasing somatic symptoms. Implications for future research and practice are examined on social support from family and friends and on acculturative stress. It seems that culturally relevant programs and services are important vehicles through which to enhance personal resources and social support and reduce lingual and cultural barriers among Korean immigrant elders residing in areas without any Korean ethnic enclave.
KEYWORDS: Korean Immigrant Elders, Acculturative Stress, Depression, Coping Resources, Non-Korean ethnic Enclaves

Stephanie Lyu Rhee

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August 1, 2013

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ACCULTURATIVE STRESS AND DEPRESSIVE SYMPTOMS AMONG KOREAN IMMIGRANT ELDERS RESIDING IN NON-KOREAN ETHNIC ENCLAVES

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DEDICATION

I would like to dedicate this dissertation to my beloved but late father, Cho-Hyung Lyu,
who had shown his unconditional love and confidence toward his daughter.

I know he had always wished to see his daughter earn her doctorate.

Wherever he is resting at this point, I want him to know that he got his wish!
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Chapter 1. Introduction

Background and Rationale of the Study

In recent decades attention has been drawn to two demographic trends of the American population: The increasing aging population and the increasing ethnic/racial diversification of the elderly population. The American population is aging: The number of elders aged 65 and older in the United States is 40 million and comprises 13 percent of the total population in 2010, which grew by 115 percent between 2000 and 2010 (U.S. Census Bureau, 2000, 2010). According to the projected population data, with the aging of baby boomers, by 2030, the number of elders will be almost doubled to 70 million and one in every five Americans will be aged 65 and older (U.S. Department of Health & Human Services [USDHHS], 2008). The elderly population is also racially/ethnically diversified (Wilmoth, 2001), and racial/ethnic minority elders, especially Asian American elders, are increasing at a faster rate (Mui & Shibusawa, 2008). While non-Hispanic, white elders increased by 88 percent between 2000 and 2010, Asian American elders increased by 161 percent from 800,795 in 2000 to 1,288,697 in 2010 (U.S. Census Bureau, 2000, 2010). According to the projected population data, between 2000 and 2050, while non-Hispanic, white elders will grow by 176 percent, Asian American elders will grow by 910 percent (USDHHS).

The proportions of non-Hispanic, white elders and Asian American elders are projected to change dramatically between 2000 and 2050: While non-Hispanic, white elders of the total elderly population are projected to fall from 84 percent in 2000 to 58 percent in 2050, Asian American elders are projected to increase from 2.3 percent in 2000 to 8.4 percent in 2050 (USDHHS, 2008), which indicates that the percentage of
Asian American elders in the total population will increase more than 3.5 times over the 50 years. The dramatically changing demographics of the elderly population in the United States indicate that Asian American elders will continue to grow rapidly as one of the fastest growing racial/ethnic groups (Mui & Shibasawa, 2008; Reeves & Bennett, 2004).

The rapid growth of the Asian elderly population has been fueled by the dramatic increase in Asian immigration (Wilmoth, 2001). Immigrants are growing at the fastest rate in the U. S. population (Jang & Chiriboga, 2010) and recent immigrants were mostly from Asia and Latin America (Treas & Mazumdar, 2002). Along with Hispanics, Asians currently comprise the largest proportion of new immigrants (Diwan, 2008). Little immigration was made from Asia to the United States until the enactment of the Immigration and Nationality Act of 1965, which used family reunification and employment to admit immigrants (Wong, 1986). In the early 1960s, approximately 20,000 Asians, about 7 percent of the total annual number of immigrants, were admitted to the United States (Wong, 1986). The 1965 Act allowed a large number of younger working Asians to enter the United States. In 2010, 422,058 Asians, comprising 40 percent of the total annual number of immigrants, were admitted to the United States, which indicated a twentyfold increase between the early 1960s and 2010 (Migration Policy Institute, 2000, 2010).

The 1965 Act also encouraged a large number of younger working naturalized immigrants to send for their aging parents under the family reunification provisions (Leach, 2009; Wilmoth, 2001; Wong, 1986). The majority of aging parents, mostly from Asia and Latin America, immigrated to the United States to be reunited with their
families, to be near their families to receive care, or to help their adult children with childcare and housekeeping tasks (Treas & Mazumdar, 2002; Wong, Yoo, & Stewart, 2006). Among older immigrants admitted to the United States in 1991, more than two thirds of immigrant elders entered the United States as parents of their U.S. citizen adult children (Treas, 1995). Along with the increase of the recently arrived older immigrants, the number of older immigrants has doubled from 2.7 million in 1990 to 4.5 million in 2007, about 12 percent of all immigrants, and one of every five older immigrants in 2007 was born in Asia (Terrazas, 2009).

The majority of Korean immigrants entered the United States after the 1965 Act; therefore, the Korean American population has become one of the fastest growing Asian sub-populations (Han, Kim, Lee, Pistulka, & Kim, 2007), comprising about 1.5 million in the U. S. and ranking the fifth-largest Asian group (U. S. Census Bureau, 2010). Many of the initial post-1965 Korean immigrants were medical professionals such as physicians, pharmacists, and nurses; however, more recent Korean immigrants are engaged in retail and service industries and have the highest rate of self-employment among the Asian ethnic groups (Mui & Shibusawa, 2008). Those post-1965 Korean immigrants are getting aged and many of Korean immigrants also entered the United States in their late adulthood. Currently, almost 11 percent of Korean Americans are aged 65 and older (U.S. Census Bureau, 2010). Korean elders are predominantly first-generation immigrants: According to the Census 2000, 94 percent of Korean elders aged 65 and older are foreign born (Mui & Shibusawa, 2008). Many Koreans also immigrated to the United States in their late adulthood. While 68 percent of Korean elders entered the United States after the age of forty, 30 percent of them entered the
United States after the age of sixty (Mui & Shibusawa, 2008). Given their higher average age at immigration, Korean elders are likely to perceive immigration as stressful and encounter barriers with acculturation.

With the rise of immigration also came the rise of the problems or issues associated with immigration. Immigration brings about sudden and tremendous changes in immigrants’ family structure and function, socioeconomic role status, and social networks (Casado, Hong, & Harrington, 2010; Shin, Han, & Kim, 2007). Thus, such changes negatively affect immigrants so that immigration can be one of the most stressful life events to those immigrants. Immigrants constantly face and live the challenging reality of “dual demands of acculturation to American society and the preservation of their ethnic heritage” (Chung, 2005, p. 84). Acculturation can be a stressful process for immigrant elders especially when they lack internal and/or external resources to cope with and overcome a variety of barriers. Korean immigrant elders are likely to experience greater acculturative stress because Korean elders experience higher rates of limited English proficiency (Diwan, 2008; Mui, Kang, Kang, & Domanski, 2007; Mui & Shibusawa, 2008) and tend to hold their traditional cultural beliefs and attitudes (Barnes & Bennett, 2002). Because of their lack of work histories and limited English proficiency, a higher proportion of Korean immigrant elders is more likely to be poor and financially dependent on their adult children and receives federal means-tested public benefits (Mui & Shibusawa, 2008). Studies show that Korean immigrant elders with limited English proficiency experience their psychosocial adaptation process as a major source of life stress (Mui, 2000), and low levels of acculturation have been shown to
contribute to their poor health outcomes (Mui et al., 2007) and their mental distress (Jang, Kim, & Chiriboga, 2005b).

Research has focused on studying factors that contribute to or mitigate Korean immigrant elders’ mental distress and exploring the variables associated with Korean American elders’ acculturative stress (Han et al., 2007; Jang & Chiriboga, 2010; Mui, 2000; Mui et al., 2007; Noh & Avison, 1996; Noh & Kaspar, 2003; Shin et al., 2007). However, most studies on acculturation and mental health were conducted in metropolitan cities in which a relatively large proportion of Korean Americans reside and Korean ethnic enclaves, the so-called Koreatown communities (Kang, Domanski, & Moon, 2009; Moon, Lubben, & Villa, 1998) have been established. In those Korean ethnic enclaves, Korean American elders get access to community resources with fewer lingual and cultural barriers. Since acculturation is the degree of adaptation to new cultures of the host society, acculturation can “vary by the amount of exposure to those cultures” (Diwan, 2008, p. S185). Ethnic enclaves are more likely to decrease immigrants’ exposure to new cultures, so immigrants are more likely to maintain their traditional ethnic identity without much pressure from the host society and are less likely to experience acculturative stress associated with their limited English proficiency. Research shows that minority immigrants residing in supportive ethnic enclaves have fewer mental health problems than those who are isolated in non-minority residential areas (Kuo, 1976). When they reside away from their immediate family or their cultural enclave communities, a majority of Asian immigrant elders with limited English proficiency and cultural barriers become vulnerable and severely disadvantaged due to the inability of getting access to health and social service system (Mui et al., 2007).
Kang, Domanski, and Moon (2009) find that Korean immigrant elders residing in non-metropolitan cities lack social supports and resources that Korean ethnic enclaves in metropolitan cities can provide. Korean-speaking health care providers and social services are rarely available to them since they live in areas where there is no Korean ethnic enclave and few community facilities are equipped with Korean language assistance program. Therefore, Korean immigrant elders residing in non-metropolitan cities are more likely to encounter lingual and cultural barriers. They are less likely to cope with and overcome those barriers when they experience intergenerational conflicts with their families rather than receive support and assistance from their families. Therefore, Korean immigrant elders experiencing higher levels of acculturative stress need counseling or other social support mechanisms to express their negative feelings, emotions, and thoughts associated with acculturative stress. Social and mental health services are available to the majority elders as coping resources to relieve their stressful feelings, emotions, and thoughts; however, the paucity of social services for non-English speaking elders residing in non-metropolitan cities will negatively contribute to Korean immigrant elders’ psychological well-being or depression.

Over 66 percent of 1.0 million Korean immigrants reside in metropolitan cities in seven states: California, New York, New Jersey, Washington, Virginia, Texas, and Illinois (Terrazas & Batog, 2010). A majority of studies on Korean Americans have been conducted in those metropolitan cities because of the availability and accessibility of the larger number of Koreans. Due to the small numbers and proportion of Korean immigrant elders elsewhere, little is known about how Korean immigrant elders residing in non-metropolitan cities have undergone and coped with acculturative stress. As a
Korean immigrant and social worker, I would like to further explore issues associated with acculturative stress that Korean immigrant elders living in non-ethnic enclave undergo and experience. The study is significant because it attempts to explore those minority elders’ experiences and adjustments to acculturative stress. The exploratory study will contribute to policy and practice and have implications for intervention programs or services that help immigrant populations vulnerable to mental distress and with feelings of isolation from the larger society.

**Purpose of the Study**

The purpose of this exploratory study was to examine three main research questions: 1) To what extent do Korean immigrant elders experience their acculturative stress and depressive symptoms when they reside in areas without Korean ethnic enclaves; 2) What personal factors are associated with acculturative stress and depressive symptoms of Korean immigrant elders; and 3) To what extent do coping resources help Korean immigrant elders reduce the levels of acculturative stress, which, in turn, may reduce the risks of having depressive symptoms?

Studies have identified several stressors (i.e., limited English proficiency, poor perceived health, intergenerational conflicts, living arrangement, perceived cultural gap) as a major source of acculturative stress among Korean immigrant elders (Barnes & Bennett, 2002; Diwan, 2008; Mui et al., 2007; Mui & Shibusawa, 2008; Noh & Avison, 1996). However, those studies were conducted in metropolitan cities in which Korean ethnic enclaves have been well established. Ethnic enclaves are more likely to allow Korean immigrant elders to maintain their traditional ethnic identity without much pressure from the mainstream society and to experience lower levels of acculturative...
stress associated with their limited English proficiency. Research shows that Korean immigrant elders isolated in non-minority residential areas have reported more depressive symptoms than those residing in supportive ethnic enclaves (Kang et al., 2009; Kuo, 1976). Thus, the current study examined what stressors Korean immigrant elders residing in non-ethnic enclaves experienced and appraised as challenging and stressful and whether such stressors strongly led to their depressive symptoms.

Studies have found that immigrant elders’ personal factors such as poor education, lower levels of acculturation, shorter length of residence in the United States, stronger ethnic identity, are strongly associated with immigrant elders’ acculturative stress and depression (Casado et al., 2010; Casado & Leung, 2002; Hurh & Kim, 1990; Kuo & Tsai, 1986; Leach, 2009; Takeuchi et al., 2007; Tran, Fitzpatrick, Berg, & Wright, 1996; Wilmoth & Chen, 2003). However, few studies have examined whether personal factors are associated with acculturative stress and depressive symptoms of Korean immigrant elders residing in areas without Korean ethnic enclaves. Personal factors may influence Korean immigrant elders to appraise acculturative stressors as more stressful, which, in turn, may lead to depressive symptoms. So the study examined the extent to which personal factors influence the impact of stressors on depressive symptoms of Korean immigrant elders who reside in areas without Korean ethnic enclaves.

Studies of Korean immigrant elders have examined the relationship among acculturative stress, coping resources, and depression (Jang & Chiriboga, 2010; Han et al., 2007; Kang et al., 2009; Mui, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008; Noh & Avison, 1996). However, few studies have examined the impact of coping resources on the relationship between acculturative stress and depression among Korean
immigrant elders residing in non-ethnic enclaves. An important gap in this literature has been the lack of reliable and valid measurement of acculturative stress and associated coping resources. Use of reliable and valid measurement of coping resources will help answer the current study questions about the direct and indirect effects of psychosocial coping resources on acculturative stress and depression among Korean immigrant elders residing in non-ethnic enclaves. Thus the proposed study examined to what extent coping resources mediated the impact of acculturative stress on depressive symptoms of Korean immigrant elders who reside in areas without Korean ethnic enclaves.

**Theoretical Basis of the Study**

This section consists of two subsections: One is stress and stressors, and the other, the appraisal of stress, coping, and social support. The two subsections are mainly grounded in Lazarus and Folkman’s (1984) stress and coping theory and Aldwin’s (2007) sociocultural model of stress, coping, and adaptation, and they present the theoretical background on stressors and coping resources involved in the stress, coping, and distress process. The theoretical and empirical studies reviewed in this section guide the study’s conceptual framework for understanding stress associated with acculturation of Korean immigrant elders and its impact on psychological wellbeing.

**Stress and stressors.**

Early work on the stress model can be traced back to Selye’s (1956) theory of stress that external stimuli produce internal physiological responses. His physiological and psychobiological findings have laid the theoretical foundations of subsequent sociological and psychological research on stressors and their relationships to mental distress and disorder (Ensel & Lin, 2000). A majority of sociological and psychological researchers have focused their considerable attention on the role of stressors in affecting
psychological distress. Historically, stress has been viewed as stressors as external events (Aldwin, 2007) and studies have found stressors to be negatively associated with psychological wellbeing (Lazarus & Folkman, 1984; Lin & Ensel, 1989; Pearlin, 1989; Pearlin, Menaghan, Lieberman, & Mullan, 1981; Thoits, 1995).

Stressors refer to “the experiential circumstances that give rise to stress” (Pearlin, 1989, p. 243). The types of stressors have been either physical or sociocultural stressors (Aldwin, 2007). Physical stressors refer to trauma (natural disaster, or fires) and aversive environmental conditions such as noise and pollutants. The characterization of physical stressors was later expanded to include sociocultural stressors (Aldwin, 2007). Sociocultural stressors refer to stressful life events, daily hassles, and chronic life strains. Life events have been identified and measured as a major type of stressor. Life events include normative life changes such as status changes in marriage, employment, relocation, and bereavement, as well as non-normative life changes such as serious illness, accidents, job loss, divorce, and immigration. Daily hassles are related to life events since life events disrupt daily living and cause hassles; however, some studies have shown that daily hassles are more significant predictors of psychological and somatic symptoms than life events (Lazarus & Folkman, 1984).

Chronic life strains have been identified and measured as another major type of stressor (Thoits, 1986). Pearlin, Menaghan, Lieberman, and Mullan (1981) have argued that life events are not “proxy indicators of chronic hardships” (p. 245) that people experience under social and economic circumstances. Stress arises not only from life events but also from chronic life strains. Chronic life strains are enduring or persistent stressful circumstances, contexts, or conditions in which life events were embedded.
Chronic life strains are diverse and extensive. Role strains are one of them and they may arise when problematic conditions “repeatedly interfere with the adequate performance of ordinary role-related activities” (Thoits, p. 416). Pearlin and Schooler (1978) have examined several types of role strains: role overload (e.g. caregiving role), interpersonal conflicts within role sets (e.g., marital or intergenerational conflicts), inter-role conflict (e.g., juggling multiple roles), role restructuring (e.g., adult children assuming increasing responsibility for caring aged parents). Chronic life strains are not limited to major role strains. They include ambient strains that include poverty, chronic illness, and residing in violent or discriminatory neighborhoods (Pearlin et al., 1981).

Multiple types of stressors do not occur singly but they are linked. Pearlin (1989) uses a term “linkage” to describe a stressor’s chain reaction of events that impacts across domains. Pearlin et al. (1981) warn that sociological stress research merely using stressors as either life events or chronic life strains will fail to capture an accurate picture of stress process because life events and chronic life strains should not be viewed as separate and unrelated. He argues that life events and chronic strains often flow together in stressful experience in three ways: “1) events lead to chronic strains; 2) chronic strains lead to events; and 3) strains and events provide meaning contexts for each other” (p. 246). In order to capture the full array of stressors present in an individual’s life, he argues that researchers should focus not on a life event or a strain but on how the organization of people’s lives may be disrupted in the stress process. Assuming that significant stressors do not occur singly, he further explicates the interconnected and complicated stress process by distinguishing primary and secondary stressors. Primary and secondary stressors can be events or strains. The distinction between primary and
secondary stressors should be made, not based on their importance to the process but based on their presumed order in the stress process; therefore, secondary stressors can generate more stress than primary stressors, depending on the circumstances.

Multiple types of stressors are incorporated in the stress process, which has extended the boundaries of stressors and expanded the temporal dimension of stress, especially its duration. Some researchers have argued that more recent or current life events occurring in a period of 1 to 6 months prior to the measurement of distress have their greatest impact on distress (McLean & Link, 1994). Other researchers have measured stressors by using a checklist of recent negative life events occurring over a time period of 6 months to 2 years (Monroe, 1982; Tausig, 1982). Wheaton (1994) argues, however, that since stress is a complicated concept, the boundaries of social stressors in the stress model need to be expanded to incorporate an array of acute and chronic stressors occurring over the life course. He has found that not only acute stressors but also chronic stressors tapping life events occurring even during early childhood or adulthood do have a significant impact on depression. Thus researchers have refocused their attention on stressors that occurred in the more distant past. Ensel and Lin (1996) expand the temporal dimension of stress concept into distal and proximal ones and examine the effects of distal stressors on current distress in their empirical research. The researchers have found that distal stressors such as life events occurring up to 15 years ago still affect individuals’ current depression, although the proximal stressors explain more variations in current depression than the distal ones. The empirical study provides an important finding that stressful life events occurring over a
greater length of time can be included in the stress process and have a direct and
significant impact on current levels of psychological symptoms.

Thus far, the types and temporal dimension of stressors have been examined. Since stressors are embedded in the environment, both the sociocultural and the personal context should not be ignored in conceptualizing the process of stress. The sociocultural context influences and shapes the types of stressors that individuals may be exposed to (Aldwin, 2007; Pearlin et al., 1981), so stressors do not necessarily produce the same stressful outcome. A lack of sociocultural resources and/or structural constraints may increase the probability of a stressor or exacerbate the intensity of stressfulness of a stressor (Aldwin, 2007; Thoits, 1995). Kaplan (1996) also argues that age, age norms, and timing of events in the life course should be considered in the stress research since they are the context in which stressors affect distress in the life stress process. Researchers have noted the importance of age and life course and argued that the nature of social stressors and their effects on distress can vary depending on age and life course (Elder, George, & Shanahan, 1996; Pearlin & Skaff, 1996).

Ensel, Peek, Lin, and Lai (1996) have examined two types of distal stressors such as undesirable life changes and status changes and found that distal stressors occurring over a 15-year period directly and significantly impacted current levels of depression at different stages in the life course: For younger respondents, both types of stressors have an equal impact on current psychological distress; however, for older respondents, undesirable life changes occurring more than 5 years ago have a greater impact on current distress than do status changes. Given that older people are less likely to experience status changes than younger ones, the empirical study findings indicate that for older
people, significant undesirable life events appear to have a more enduring effect on wellbeing than status changes. The implication of the study is that age and life course are the important factors on the relationship between stressors and distress and that the impact of the same stressors on distress can be varied depending on age and life course. It should be noted that stressors couldn’t be evaluated without having knowledge of the sociocultural and the personal context (Aldwin, 2007).

**The appraisal of stress, coping, and social support.**

Stressors as an external stimulus can bring negative psychological consequences; however, negative consequences might not be universal since each individual will experience and react to the stressors differently. Thus, Lazarus and Folkman (1984) argue that if stress is defined merely as an external event, such definition cannot capture individual differences in the appraisal or perception of stress. They define stress as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or well-being” (p. 19). Thus stress is conceptualized in an integrative framework in which both the person’s characteristics and environmental stressors are integrated into cognitive appraisal processes.

According to Lazarus and Folkman (1984), a stressor affecting an individual at one point in time may not be stressful for another individual or for the same individual at a different point in time since each individual will go through cognitive appraisal processes of stress in his/her personal and sociocultural context. Lazarus and Folkman use the term “cognitive appraisal” to describe the process of psychological mediation when an individual encounters social stressors. The cognitive appraisal consists of two
components: primary and secondary appraisal. In the primary cognitive appraisal process, an individual perceives stressors as stressful because his/her appraisal signals harm/loss, threat, and/or challenge. However, an individual’s negative perception of stressors does not necessarily incur stress. In the secondary cognitive appraisal process, the individual facing environmental demands mobilizes and evaluates his/her coping resources as adequate or deficient to deal with stressors. When he/she evaluates those demands as controllable and uses coping resources and strategies accordingly, his/her individual as well as cultural values and beliefs influence his/her coping efforts; therefore, the concept of coping should be viewed as a dynamic process between the person and the environment rather than an automatized behavior or a personality trait (Lazarus & Folkman, 1984).

Coping has traditionally been studied using two different models: the animal behavioral model and the psychoanalytic ego psychology model. While the animal model viewed coping as automatized learned behaviors or acts that lower drive or arousal by controlling aversive conditions, the ego psychology model viewed coping as personality traits or styles that could transcend any specific life strains or situations (Lazarus & Folkman, 1984). Lazarus and Folkman (1984) address the limitation of traditional approaches to coping and define coping as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (p. 141). The definition implies that coping is a dynamic process that involves the complexity and variability of actual cognitive and behavioral efforts in a specific person-environment context where a person’s stressful encounters unfold. Given the importance of a specific person-
environment context, the influence of culture on individuals’ coping efforts should not be ignored. Culture affects an individual’s appraisal of stress and his/her choice of coping resources that are available in any given situation (Aldwin, 2007).

Coping resources refer to social resources and psychological resources (personal characteristics) that people mobilize or draw on when stressful conditions arise and persist (Lazarus & Folkman, 1984; Pearlin & Schooler, 1978). Psychological resources include a sense of mastery, self-esteem, locus of control, beliefs, and feelings of personal competence; on the other hand, social resources include social support, monetary resources, and environmental support (Lazarus & Folkman, 1984). Coping resources are theoretically defined as “factors that precede and influence coping, which in turn mediates stress” (Lazarus & Folkman, 1984, p. 158); therefore, they are reactive elements in response to stressors (Ensel & Lin, 1991). Gore (1985) describes them as reflecting “a latent dimension of coping because they define a potential for action, but not action itself” (p. 266).

Studies have examined how coping resources work in the stress and coping process. Psychological resources have been found both directly to reduce psychological disturbance and to buffer the deleterious effects of stress exposure on physical and mental health (Lin & Ensel, 1989; Rodin, 1986; Turner & Roszell, 1994). Such studies implicate that individuals with a high sense of mastery and self-esteem are more likely to use a problem-solving coping response or an active coping approach; however, Pearlin and Schooler (1978) show inconsistent findings. Psychological resources diminish external threat to self and are effective for coping life strains derived from impersonal problems such as finances and job that people have little control over; however, those active coping
response enhanced by psychological resources have no effect on psychological symptoms. When psychological and social resources are integrated in the process of stress in Pearlin et al.’s (1981) study, chronic role strains as stressors diminish mastery and self-esteem and the diminished self-concepts make one vulnerable to depression. However, social support mediates the stress-distress process by buttressing self-esteem and mastery, which fosters positive affect and reduce the disturbing psychological impacts of stressors on depression.

Based on Lazarus and Folkman’s (1984) stress and coping theory, Thoits (1986) has argued that effective social support functions to supplement or reinforce an individual’s behavioral and/or cognitive coping efforts to target problematic situations or problematic feelings (two sources of perceived stress) rather than to directly bolster the threatened individuals’ self-concepts. Pointing out the limitations of Pearlin et al.’s (1981) findings that social support buttresses self-esteem and mastery, which in turn can reduce psychological distress, Thoits (1986) has argued that social support can function as coping assistance. His reconceptualization of social support as coping assistance redirects theoretical attention to the sources of perceived stress and the integration of social support and coping responses may explicate how social support works.

Social support can be defined as “social resources that individuals perceive to be available or that are actually provided to them by nonprofessionals in the context of both formal support groups and informal helping relationships” (Wong, Yoo, & Stewart, 2007, p. 45). Social support can be perceived or actual received social support. The effects of perceived social support have been most frequently examined in the stress literature (Thoits, 1995). The perceived support availability has consistently shown to buffer the
effects of stress on psychological outcomes (Kessler & McLeod, 1985) and has shown the stress-buffering effect more strongly than the actual supportive behaviors (Wethington & Kessler, 1986). Bolger, Zuckerman, and Kessler (2000) also document the benefits of “invisible support” and the costs of actually received support since when the receiver is aware of receiving social support, his/her self-esteem may be undermined by his/her inability of dealing with stressors and/or his/her obligation toward the giver of social support.

The dimension of social support has shown different coping efficacy of social support. Researchers have distinguished social support into two dimensions: Structural and functional social support (Cohen & Wills, 1985; Thoits, 1995; Taylor, 2010). Structural social support refers to interpersonal relationships that a person has and interconnectedness among those relationships, and is also known as social integration assessed in terms of the numbers and frequencies of interactions, the existence of family or friends, and social network. When the social support measure assesses a person’s degree of integration in a large social network (for example, the number of friends living nearby, frequency of visiting, number of relatives living nearby, frequency of church attendance, living with family, belonging to any social or religious organization), the structural dimension of social support has a main or direct effect of enhancing people’s overall well-being; however, in the presence of stressors, social integration does not necessarily help improve means of coping with stressful events and the hypothesis that social relationships in themselves buffer people against stress has rarely been tested and confirmed (House & Kahn, 1985).

On the other hand, functional social support refers to the specific functions
(information, instrumental, and emotional) that social networks may serve for a person. Informational support comes from social companionships and involves the provision of information, guidance, and advice to help a distressed individual define and understand stressful life conditions and select resources and coping strategies needed to deal with the conditions. Instrumental support refers to financial aid, material or tangible assistance, and services needed for activities such as relaxation or entertainment. Emotional support enhances a distressed individual’s self-esteem by reassuring that he/she is valued for his/her own worth and is accepted despite any personal faults or difficulties. When social support is empirically assessed through measures of perceived support availability, especially perceiving that emotional support/empathic understanding is available, the buffering effects of social support occur (Cohen & Wills, 1985; Krause, 2004; Wethington & Kessler, 1986). Informational and emotional support, not instrumental support, has been consistently successful in showing the evidence of buffering effects (Cohen & Wills). Thus, Cohen and Wills confirmed the matching hypothesis that buffering should be highest when there is a “reasonable match between the coping requirements and the available support” (p. 134). In other words, an individual facing stressors is able to buffer against stress when social support functions to meet the individual’s specific needs and values elicited by stressors (Thoits, 1995). The matching hypothesis is similar to Thoits’ (1986) reconceptualization of social support as coping assistance that has been addressed above.

Thus far, studies on social support have shown coping efficacy. It should be noted, however, that even the benefits of social support could be experienced differently across cultures (Taylor, 2010). Cultures influence and shape relationships, and social
support is experienced in the context of relationships; therefore, there are cultural differences that influence how social support is perceived and/or received. In Western cultures in which autonomy and independent relationship are cherished, explicit social support (seeking help from family and friends to manage specific stressful events) is encouraged and viewed as successful coping with stress. On the other hand, in Asian cultures in which interdependent relationships are cherished, explicit social support is considered to undermine harmonious relationships and make inappropriate demands on their family and friends. So people in Asian cultures may seek implicit social support (being aware of or close to family and friends) and tend to keep their problems to themselves (Kim, Sherman, Ko, & Taylor, 2006; Taylor et al., 2004).
Chapter 2. Literature Review

This chapter describes literature relevant to the purposes of the current study. It is organized into three sections: (1) appraisals of acculturative stress, (2) depression as an indicator of psychological wellbeing, and (3) the effects of coping on acculturative stress and depression. The first two sections are divided into four subsections ending with two brief summaries, and the last section is divided into two subsections ending with a summary. At the end of the chapter, the conceptual framework of the current study is discussed and the five more specific research questions are formulated.

Appraisals of Acculturative Stress

This section contains the four subsections that describe the importance of appraisals of acculturative stress among immigrant elders. Immigrants undergo the process of acculturation, so the term acculturation will be first defined. In the process of acculturation, immigrants are constantly exposed to and challenged by acute and chronic stressors, which may negatively affect their psychological wellbeing. Therefore, in the second subsection, literature on acculturative stressors associated with mental health will be reviewed to understand multiple types of stressors and their interconnectedness. Stressors are negatively associated with immigrants’ psychological wellbeing; however, stressors do not give rise to stress unless they are appraised as stressful (Lazarus & Folkman, 1984). Thus in the third subsection, acculturative stress will be defined to describe the importance of appraised stressfulness. Since acculturation is often perceived as stressful (Escobar & Vega, 2000), the level of acculturation is often used to refer to acculturative stress. However, they are different and the definition of acculturative stress will make a clear distinction between the level of acculturation and acculturative stress.
In the last subsection, literature will be reviewed on moderating factors, such as age, the level of acculturation, and environment (ethnic enclaves), that influence immigrant elders’ appraisals to make certain stressors more salient and stressful, which, in turn, may result in depressive symptoms.

**Definition of acculturation.**

Immigrants undergo the process of acculturation when they immigrate to the United States. Acculturation is defined as “culture change which results from continuous, first hand contact between two distinct cultural groups” (Berry, Kim, Minde, & Mock, 1987, p. 491-492). Acculturation had been originally viewed as a group-level phenomenon, bringing about economic, technological, social, cultural, and political changes (Williams & Berry, 1991). However, acculturation has been recently taken as an individual-level phenomenon, referring to “psychological changes in an individual (in both behavior and internal characteristics) whose cultural group is collectively experiencing acculturation” (Berry et al., p. 492). Entailing group and individual levels of change, acculturation also refers to the process that contains the concept of varying degrees or levels of adapting to the mainstream culture under the influence of the traditional culture. In the Encyclopedia Britannica (2012), acculturation is defined as both “the processes of change in artifacts, customs and beliefs that result from the contact of two or more cultures” and “the results of such changes.”

Some researchers have conceptualized acculturation as a process, while others have referred it as an outcome. Chiriboga (2004) defines acculturation as “a process of cumulating with a presumed endpoint that would represent the individual’s capacity to achieve competence and familiarity with the new culture and mores” (p. 289). Diwan (2008) also emphasizes a concept of process in her definition of acculturation: “the
degree to which individuals are influenced by and actively engage in the traditions, norms, and practices of one or more cultures” (p. S185). Considering that the concept may vary by degrees, acculturation may have different facets. Pumariega, Rothe, and Pumariega (2005) have suggested that there are three possible forms of acculturation: assimilation (renouncing the traditional culture and identifying with the dominant culture), marginalization (embracing the traditional culture and excluding the dominant culture), and biculturalism (validating and reaffirming both cultures). Escobar and Vega (2000) warn that the concept of acculturation can be confusing since the concept of acculturation has many separate but overlapping dimensions, including ethnic identity, familism, traditionalism, cultural knowledge, cultural behaviors, and language use; therefore, given these varying definitions, acculturation is a complex multidimensional construct that indicates the level of the fit between an immigrant and his/her dominant culture (Chiriboga, 2004; Jang & Chiriboga, 2010).

**Acculturative stressors.**

This section reviews literature on the three major types of acculturative stressors associated with immigrants’ mental health: life events, daily hassles, and chronic life strains. The reviewed literature in this section mainly focuses on studies with Asian and Hispanic immigrants.

Researchers have examined the impact of stressful life events that immigrants experience and which affect their mental health. Stressful life events have been defined and measured as financial, family, legal, or physical problems and relocation (Diwan, Jonnalagadda, & Balaswamy, 2004; Kuo & Tsai, 1986; Mills & Henretta, 2001; Mui et al., 2007; Mui & Kang, 2006; Mui & Shibusawa, 2008; Shin et al, 2007). Immigration
also entails status changes. Researchers have examined life status changes associated with immigration as stressors associated with mental distress or depressive symptoms: geographical relocation (Arredondo-Dowd, 1981), cultural and personal losses of status including employment, identity, independence, language, culture, and friends (Casado et al., 2010; Casado & Leung, 2002; Chung, 2005), bereavement (Mills & Henretta, 2001), and poor health status such as increased physical disability and illness (Mills & Henretta, 2001; Mui, 1996, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008; Treas & Mazumdar, 2002).

Life status changes and stressful life events disrupt the daily living of immigrants and cause daily hassles. Daily hassles can refer to “a repeated metric of stress in living” (Lazarus & Folkman, 1984, p. 312). Although they may be considered as minor daily annoyances compared to life events, given their frequency and/or intensity, daily hassles may be more significant predictor of psychological distress than life events (Lazarus & Folkman, 1984). In the current study, limited English proficiency is considered as a daily hassle. Limited English proficiency has been identified as one of the most difficult stressors among Asian American immigrant elders (Casado & Leung, 2002; Chung, 2005; Diwan, 2008; Kuo & Tsai, 1986; Mui, 2000; Mui et al., 2007; Mui & Shibusawa, 2008; Takeuchi et al., 2007). Limited English proficiency negatively affects immigrants’ confidence in communicating daily with people from the mainstream society and/or in accessing medical and/or social services (Mui & Shibusawa, 2008).

The negative impact of life events and daily hassles persists and lingers for a period of time, which induces chronic stressful conditions or circumstances. Pearlin and other researchers have identified chronic life strains as a major type of stressors (Pearlin
et al., 1981; Pearlin & Schooler, 1978) and described role strains as one of them. Immigration brings about changes in immigrants’ family structure and function, socioeconomic role status, and social networks (Casado et al., 2010; Shin et al., 2007). Thus, role strains have been associated with immigrants’ chronic life strains. Studies have identified role strains with families resulting from intergenerational conflicts and/or role changes in families (Mui, 1996; 1998; Mui & Shibusawa, 2008; Noh & Avison, 1996; Treas & Mazumdar, 2002; Wilmoth & Chen, 2003). Chronic life strains also include ambient strains such as poverty, lower socioeconomic status (Hovey, 2000; Mui & Shibusawa, 2008), and social discrimination (Noh & Kaspar, 2003; Pumariega, Rothe, & Pumariega, 2005).

As discussed in the Theoretical Basis of Study section in Chapter 1, multiple types of stressors do not occur singly but they are linked (Pearlin, 1989). Life events, daily hassles, and chronic life strains are not separate but related. For example, immigration brings elders to be exposed to a new language and new cultural beliefs, attitudes, and values. Their lack of English proficiency and their poor assimilation may make them dependent more on their families, which may trigger intergenerational conflicts with their adult children and/or grandchildren who have more rapidly acculturated. As shown in this example, a full array of stressors are related and involved in immigrants’ process of acculturation; therefore, recent life stresses that do not appear to be related to acculturation are considered to be one of acculturative stressors in this study.

Most of the previous studies have indicated that stressors give rise to acculturative stress and directly affect immigrants’ mental health; however, those studies have rarely
examined the interrelationship among stressors, acculturative stress, and mental health. In other words, studies have shown that stressors may have direct effects on depressive symptoms or other negative mental health outcomes; however, stressors do not give rise to stress unless they are appraised as stressful (Lazarus & Folkman, 1984). From a theoretical perspective, it is important to note that appraisals of acculturative stress may lead to depressive symptoms among immigrants. Therefore, stressors will not be viewed as acculturative stress in the current study.

**Acculturative stress.**

Acculturative stress is defined as “a reduction in health status (including psychological, somatic and social aspects) of individuals who are undergoing acculturation, and for which there is evidence that these health phenomena are related systematically to acculturation phenomena” (Berry et al., 1987, p. 491). Therefore, acculturative stress results in “a particular set of stress behaviors that include anxiety, depression, feelings of marginality and alienation, heightened psychosomatic symptoms, and identity confusion” (Williams & Berry, 1991, p. 634). Acculturative stress directly originates from and has its stressors in the process of acculturation (Williams & Berry, 1991). However, just being exposed to or dealing with stressors in the process of acculturation do not cause acculturative stress. As Lazarus and Folkman (1984) posit in their stress and coping theory, stressors should be perceived as stressful or threatening and evaluated as uncontrollable beyond coping efforts. Thus, acculturative stress can be equated to “the appraised stress” (Jang & Chiriboga, 2010, p. 14).

Most of previous studies indicate that acculturative stress may arise from dealing with acculturative stressors, which results in psychological distress or depressive
symptoms among immigrant elders (Mui, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008). Acculturative stress may also arise due to different levels of acculturation (Berry et al., 1987; Lazarus & Folkman, 1984; Oh, Koeske, & Sales, 2002; Williams & Berry, 1991). Studies have shown that higher levels of acculturation are strongly associated with better health status (Tran et al., 1996, p. 159) and with better psychological well-being (lower levels of depression) among Hispanic elders (Hovey, 2000) and Asian American elderly (Casado & Leung, 2001; Mui, 2000; Mui & Kang, 2006; Stokes, Thompson, Murphy, & Gallagher-Thompson, 2002).

In studying the relationships among levels of acculturation, acculturative stress, and mental health, researchers have pointed out that levels of acculturation and acculturative stress should be clearly distinguished from each other (Hovey, 2000; Hovey & King, 1996) and that the relationship between levels of acculturation and mental health should be examined with the effect of acculturative stress (Jang & Chiriboga, 2010; Oh et al., 2002). Levels of acculturation may not only have direct effects on depressive symptoms or negative mental health outcomes but also exert indirect effects on mental health outcomes as a moderating factor by making individuals more likely to succumb to acculturative stress (Jang & Chiriboga, 2010). On the other hand, acculturative stress can become a mediating factor that can change the direction of the relationship between levels of acculturation and mental health (Jang & Chiriboga, 2010). Thus, researchers suggest that acculturative stress and levels of acculturation should be clearly distinguished (Hovey, 2000) and that the appropriate measurement for each should be used (Escobar & Vega, 2000).
Factors moderating appraisals of acculturative stress.

Appraised acculturative stress manifests varying levels of stress in interaction with personal and sociocultural factors. Therefore, certain aspects of acculturative stress may be more salient for older immigrants and especially for those who reside in non-ethnic enclaves. Thus this subsection will review studies that have examined the extent to which personal (age, education, and the level of acculturation) and contextual (ethnic enclaves) factors have influenced immigrant elders’ appraisals of acculturative stress and made them experience certain acculturative stressors as more stressful and uncontrollable, which in turn, results in their depressive symptoms.

Age can be an important factor affecting appraisals of acculturative stress by influencing the impact of stressors such as physical health and cognitive ability, socioeconomic status, English proficiency, and cultural conflicts including poor assimilation, ethnic identity crises, and strong ties with ethnic communities. Even adult immigrants undergo a challenging and difficult acculturation process since they are constantly facing and dealing with challenging and tremendous demands from a new culture different from their ethnic cultures (Chung, 2005). Adult immigrants whose ethnic identities were already formed and preserved in their traditional cultures may not have a flexible cognitive ability to adapt to new cultural beliefs, values, customs, and language (Pumariega et al., 2005). Especially for older adult immigrants, the process of acculturation is more challenging and stressful. Studies have found that older immigrants’ poor mental health outcomes have been associated with stresses from poor health status (Diwan, 2008; Mui, 1996; Mui & Shibusawa, 2008; Tran et al., 1996) and social stresses such as loneliness and dependence (Tran et al., 1996). Although poor
education and limited English proficiency had no direct effect on the mental health outcome in their study, Tran, Fitzpatrick, Berg, and Wright (1996) have strongly suggested that older immigrants’ stresses on their health and social relationships are strongly associated with their poor education and limited English proficiency because of difficulty accessing medical care or integrating into mainstream society.

In contrast, other studies have found that other aspects of acculturative stress are strongly associated with immigrant elders’ lower levels of acculturation, which are assessed by their ethnic identity, English proficiency, length of residence in the United States, and social relationship. Immigrant elders with less acculturation are more likely to experience acculturative stress and depression due to limited English proficiency and stronger ethnic identity (Pumariega et al., 2005) and shorter length of residence in the United States (Casado et al., 2010; Casado & Leung, 2002; Hurh & Kim, 1990; Kuo & Tsai, 1986; Leach, 2009; Takeuchi et al., 2007; Wilmoth & Chen, 2003). For older immigrants, learning English is stressful and their limited ability to learn it incurs adjustment problems, which lowers their self-esteem and self-integrity and is more likely to increase their feelings of failure (Casado & Leung, 2002; Noh & Avison, 1996). Studies have shown that older immigrants’ more traditional beliefs about the importance of ancestors and the extended family (Mui & Shibusawa, 2008) and Confucian norms of filial piety among Chinese and Korean immigrants may conflict with their more acculturated adult children and/or grandchildren. Therefore, intergenerational conflicts may make immigrant elders socially and emotionally isolated and dissatisfied with their life (Treas & Mazumdar, 2002). Shorter lengths of stay in the United States are associated with immigrant elders having adjustment problems such as language
difficulty, social isolation, and family dependence (Leach, 2009) and migratory grief (Casado et al., 2010).

Contextual (situational) factor such as ethnic enclaves may be another significant factor influencing immigrant elders’ perception of acculturative stress. Since acculturative stress is a sociocultural construct, it is determined by the interactive relationship between the person and the environment (Lazarus & Folkman, 1984). Thus, the environmental factor of residence in an ethnic or non-ethnic enclave becomes important in influencing immigrant elders’ perception of acculturative stress (Kang et al., 2009). Mui and Shibusawa (2008) have found that Asian elders with more medical conditions and more stressful events are more likely to access community-based services; however, when the elders with limited English proficiency and cultural barriers reside in non-ethnic enclaves, they may not have ethnic community services available or accessible and their lack of such services may make their life more challenging and stressful. Studies have shown the important role of ethnic enclaves in preserving traditional values, beliefs, and practices and providing ethnic community services and support to immigrant elders (Kang et al., 2009; Mui, 1996; Mui & Shibusawa, 2008). Other studies have also noted that ethnic community organizations and churches have expanded immigrants’ social networks and support systems and increased independence of Korean and Chinese immigrant elders (Mui & Shibusawa, 2008; Wong, Yoo, & Stewart, 2005, 2006, 2007).

One major study on Asian immigrant elders residing in ethnic enclaves have shown that Asian immigrant elders’ higher rates of depression are strongly associated with the familial dimension of acculturative stress (Mui & Kang, 2006); on the other
hand, the study on Korean immigrant elders residing in non-ethnic enclaves has shown that those Korean immigrant elders have higher rates of depression than those living in Korean ethnic enclaves and that limited English proficiency is the strongest predictor of depression among Korean immigrant elders residing in non-ethnic enclaves (Kang et al., 2009). The two comparable studies indicate that ethnic enclaves can influence immigrant elders’ appraisals of acculturative stress; therefore, it is implied that ethnic enclaves can make certain stressors more stressful to immigrant elders. Given that the two studies have used different sampling techniques (probability sampling vs. snowball sampling), the study findings are limited in generalizing to other studies. However, further research has to be conducted on the impact of situational factors on the appraisal of acculturative stress among immigrant elders.

In summary, acculturative stress is a complex multidimensional construct that is different from the concept of acculturation. The clear distinction between the two concepts guides the current study to a less conceptually confounding and more methodologically valid one. Depending on personal and contextual factors, acculturative stressors may incur or exacerbate immigrant elders’ appraisals of acculturative stress that in turn may lead to depressive symptoms. Therefore, the next section will review literature examining the relationship between acculturative stress and depressive symptoms and further examine depression among the immigrant elders and culturally specific aspects of depression among those elders.

**Depression as an Indicator of Psychological Wellbeing**

Psychological wellbeing is viewed as the process of evaluating all aspects of life; depression results from evaluative reactions to stress and strain derived from living life
(Mills & Henretta, 2001; Mui & Shibusawa, 2008). Therefore, numerous studies on the importance of psychological wellbeing of the immigrant elderly have used depression as an outcome variable to indicate the negative dimensions of psychological wellbeing in the immigrant elderly.

In this section, literature on the relationship between acculturative stress and depression among immigrants is reviewed to establish the importance of acculturative stress as a predictor of depression. Then literature on aging and depression is reviewed in order to establish the importance of depression as an indicator of psychological wellbeing among Asian immigrant elders as well as in the general elderly population. In the third subsection, literature on the impact of cultural factors on depression is reviewed to examine cultural differences in depression among Asian immigrant elders, especially Chinese and Korean immigrant elders, in terms of symptom expressions, definitions of depression, and illness responses. Lastly more limited literature is reviewed to establish the importance of situational factors on depression among Korean immigrant elders, which will be explored as one of the primary purposes of this study.

**Acculturative stress as a predictor of depression.**

The process of acculturation has been increasingly examined as much a psychological process as a sociological one (Pumariega et al., 2005). Numerous studies on acculturation have documented that high levels of stress associated with acculturation can lead to psychological distress or depressive symptoms (Williams & Berry, 1991). Studies have examined the relationships between acculturative stress, depression, and suicidal ideation among Mexican immigrants (Hovey, 2000) and Latino immigrant adolescents (Hovey & King, 1996), and despite the different samples, the two studies
have found that acculturative stress has significantly predicted depression and suicidal ideation. Another study on Mexican American college students has found that acculturative stress has predicted not only higher levels of depressive symptoms but also higher levels of anxiety (Crockett et al., 2007). All of the studies reviewed above have used an acculturative stress scale to measure acculturative stress. Tran et al. (1996) have used a national-area probability sample of Hispanic immigrant elders to examine the relationship between acculturation and psychological distress by using a structural equation model. Unlike the previous studies, this study has assessed acculturative stress by personal, financial and social stresses, and its outcome variable was psychological distress measured by negative feelings from an affect balance scale. Despite different assessment tools and study designs, the study has found that stresses associated with acculturation had significant direct and indirect effects on psychological distress, which are consistent with the previous study findings.

Studies have examined the relationship between acculturative stress and depression among Asian immigrant elders (Kuo, 1984; Mui & Kang, 2006; Mui & Shibusawa, 2008), among Chinese immigrant elders (Mui, 1996, 1998), among Japanese American elders (Shibusawa & Mui, 2002), and among Korean American elders (Han et al., 2007; Jang & Chiriboga, 2010; Kang et al., 2009; Mui, 2000; Noh & Avison, 1996; Pang, 1995) as well as Korean adult immigrants (Oh et al., 2002; Shin et al., 2007). Most of the studies on Asian immigrants have used depression to indicate immigrants’ quality of life, psychological distress, mental distress, or psychological wellbeing; therefore, the studies measured current levels of depressive mood or depressive symptomatology through mostly the Geriatric Depression Scales (GDS), the Geriatric Depression Scales-
Short Form (GDS-SF), the Center for Epidemiological Studies Depression Scale (CES-D), or Korean version of the CES-D rather than Diagnostic and Statistic Manual of Mental Disorders (4th edition, text rev.; DSM-IV-TR; American Psychiatric Association [APA], 2000) criteria. Some studies have measured acculturative stress more directly through an acculturative stress scale (Han et al., 2007; Jang & Chiriboga, 2010; Noh & Avison, 1996; Oh et al., 2002; Shin et al., 2007), whereas other studies have measured acculturative stress through life stressors including perceived health status, stressful life events, living arrangement, perceived cultural gap, fear of dependency, ethnic social support, or ethnic enclaves (Kang et al., 2009; Mui, 1996,1998, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008; Shibusawa & Mui, 2002). Despite the different measures and sampling processes, numerous studies of Asian immigrants have provided strong empirical evidence that there is a significant relationship between acculturative stress and depression (Han et al., 2007; Ji & Duan, 2006; Kang et al., 2009; Kim, Han, Shin, Kim, & Lee, 2005; Mui, 1998, 2000; Mui & Kang, 2006; Noh & Avison, 1996; Oh et al., 2002; Shibusawa & Mui, 2002; Shin et al., 2007).

**Aging and depression.**

The elderly are highly likely to experience bereavement, loss of independence and security, physical illness and disability and such experiences can be stressful and associated with psychological distress; therefore, for the elderly, the level of depressive symptoms increases with advancing age (Mills & Henretta, 2001). Even for the elderly with health, financial security, and high levels of socioeconomic status, age brings significant changes in their life and such changes may negatively affect their sense of purpose and self-realization in their later life and put them at a high risk of developing
depressive symptoms (Ryff, 1989). Facing such physical, psychological, social, and economic risk factors associated with aging, Asian immigrant elders undergo difficulties associated with acculturation, including shorter lengths of residence in the United States, cultural conflicts, poorer health, more acculturative stress, more financial strain, limited English proficiency, dependence on family, social isolation, and lack of social support, which have been examined by researchers as potential risk factors of depression (Casado & Leung, 2002; Han et al., 2007; Kang et al., 2009; Mui, 2000; Mui & Kang, 2006; Shibusawa & Mui, 2002; Stokes et al., 2002).

Several empirical studies have shown that there are high rates of depression among Asian American elders (Han et al., 2007; Mui, 1996, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008; Shibusawa & Mui, 2002; Stokes et al., 2002). Other studies have found that Asian American elders have shown higher rates of depression than white Americans because Asian immigrant elders have lacked resources to cope with physical, financial, linguistic, and emotional challenges associated with acculturation (Mui & Kang, 2006; Mui & Shibusawa, 2008). According to epidemiological studies in the United States, the one-year prevalence rate of major depression among the elderly residing in the community is estimated to be 5 percent or less, when measured by DSM-IV-TR-based criteria (Mui, Burnette, & Chen, 2001). However, depressive symptoms are more prevalent among the elderly than major depression, with 15 to 20% of community-residing elderly reporting depressive symptoms measured by different instruments (Gallo & Lebowitz, 1999). When the GDS was used, studies have shown that the prevalence of depressive symptoms among the community-residing immigrant elderly varied from 12% to as high as 40% for depressive symptoms (Mui, 2000; Mui & Kang, 2006;
High rates of depressive symptoms among the elderly should not be ignored since they are an important risk factor for developing physical and cognitive impairment (Gallo & Lebowitz, 1999) and major depression (National Institute of Mental Health [NIMH], 2007). Thus the current study will examine depressive symptoms as the previous studies on Asian immigrant elders did.

Since depression often occurs at the same time with other serious physical illnesses such as heart disease, stroke, diabetes, cancer, and Parkinson’s disease (Mui, 1996; Mui & Shibusawa, 2008), and the elderly are highly likely to experience social and economic hardships accompanying aging, depression among the elderly is often viewed as a normal part of aging and even health care providers sometimes regard depression as a normal reaction to these aging problems (Mui et al., 2001). However, depression is not a normal part of aging and it should be detected and treated; otherwise, untreated depression can worsen other serious illnesses or lead to suicide (NIMH, 2007). Studies have shown that depression has been a risk factor associated with suicide among the elderly (Gallo & Lebowitz, 1999; Kang et al., 2009; Hovey, 2000; Mui & Shibusawa, 2008) and that about a quarter of old-age related suicides are related to depression (Mui et al., 2001). According to the National Institute of Mental Health (NIMH, 2007), the elderly aged 65 and older accounted for 16 percent of all suicide deaths in 2004 and Asian American elderly aged 65 and older are at the second highest rate of suicide: 10.6 for every 100,000 Asian American elderly died by suicide in 2004, compared to 15.8 deaths for 100,000 Non-Hispanic whites. Asian Americans in psychiatric distress such as depression and anxiety have the highest proportion (57%) of suicidal or death ideation among other racial and ethnic groups (Bartels et al., 2002). Despite the fact that Asian
American elders are at a high risk of depression and suicidal ideation, depression among them has been unrecognized and undertreated (Casado & Leung, 2002). Compared to the general older population, immigrant and minority elders are the most underserved by the health care providers (Mui, 2000). Therefore, in the next subsection, literature on cultural factors of depression among Asian immigrant elders will be reviewed to examine cultural differences in depression.

**Cultural factor on depression.**

From the Western biomedical perspective, depression is defined as a clinical disease with predictable symptoms and treatment responses as described in the *DSM-IV-TR* (APA, 2000). However, the biomedical perspective focuses on biochemical causes of diseases and disregards the social, cultural and institutional contexts (Mishler, 1981). From the sociocultural perspective, depression can be defined as “a feeling state of sadness, hopelessness, and demoralization that may be as fleeting as a momentary nostalgia or as lasting as prolonged grieving” (Kleinman & Good, 1985, p. 9). Thus, depression is an illness that has been “socially produced and culturally constructed through the interpretation of personal distress and social realities in the context of local knowledge and local systems of power” (Kleinman & Good, 1985, pp. 493-494). Therefore, the definition and factors associated with depression may vary from individual to another; however, an individual’s distinctive illness experience will be shaped by the sociocultural belief systems and norms (Mui & Shibusawa, 2008). Accordingly, the clinical reality of depression can be varied depending on which local world and cultural system that a depressed patient lives in. Literature on symptom expression, definitions, and treatment responses of depression among Asian immigrant elders, especially Chinese
and Korean elders, will be reviewed to establish the importance of socio-cultural factors in understanding depression among Asian immigrant elders.

Studies have shown that stress associated with acculturation is related to higher scores of psychological symptoms among older Chinese and Korean Americans, compared with a Caucasian American sample (Casado & Leung, 2002), and that Asian American elders are at higher risk for psychological distress in the form of depressive symptoms and somatization (Shibusawa & Mui, 2002; Stokes et al., 2002). Although Asian immigrants display characteristics of major depressive disorder, they more often report somatic symptoms and do not acknowledge their psychological distress as depression. Asian cultures do not encourage expression of mental illness since depression is viewed as “a hereditary taint of moral failure and constitutional vulnerability” (Kleinman, 1988, p. 109). Culturally Asian cultures consider self-disclosure of mental health problems to outsiders as stigmatized and the internal locus-of-control and privacy as strength of personal characteristics (Mui & Shibusawa, 2008; Wong et al., 2005; Yi & Tidwell, 2005). When facing a mental health problem, they usually internalize the problem and try to inhibit talking about it. Even though some may tell their family about the problem, their family members would also keep it internal and seldom talk to a mental health professional. Older immigrants tend to rely much more on traditional healers and remedies than on formal mental health services (Casado & Leung, 2002; Mui & Kang, 2006).

Depressive symptoms are often expressed with somatic complaints among Chinese immigrants. Chinese immigrants’ experience of depression has been described as “neurasthenia” (Kleinman, 1982, 1988) as they have expressed experience of
depression as their physical or psychosomatic symptoms such as back pain and headaches (Casado & Leung, 2002; Kuo, 1984). Thus somatization of psychological problems is “the only institutionally acceptable sick role” (Katon, Kleinman, & Rosen, 1982, p. 245). Kleinman (1988) points out that depression labeled as neurasthenia avoids stigmas of mental illness as well as of politically incorrect thinking. Wu, Chi, Plassman, and Guo (2010) have found significant positive relationships between depressive and somatic symptoms in their study of Chinese immigrant elders in Boston and Chinese elders in Shanghai. In other words, physical health problems are strongly related to higher depressive symptoms in both samples, which is consistent with other study findings (Casado & Leung, 2002; Kleinman, 1988; Kuo, 1984) that somatization is more commonly expressed in the Chinese than the Western culture.

Korean immigrants have higher levels of depressive symptoms than other Asian immigrants (Kuo, 1984). When they have mental health problems, Korean immigrant elders rarely seek mental health treatment; rather, they first seek help within their family network by expressing their psychosomatic symptoms, including chest pain, headaches, indigestion, stomach pain, anorexia, palpitations, generalized aches and pains, and insomnia (Casado & Leung, 2002; Pang, 1995, 2000). Korean immigrants’ inhibited feelings and emotions may be manifested physically as a culture-related somatic form of illness called Hwa-Byung, a unique Korean illness (Pang, 1995). Hwa means fire or anger and Byung means illness. Thus, Hwa-byung translates in English to anger illness. Koreans are willing to admit this somatized form of illness, not depression (Pang, 1995). Even when the mental problem becomes severe and is diagnosed as depression, Korean immigrant elders or their family may not seek help from mental health professionals.
Similar to Chinese elders, they rather seek help from an herbal doctor, a traditional healer, or a physician because they regard mental health as a shame to their family or think that the problem will naturally heal (Mui & Shibusawa, 2008; Pang, 1995; Wong et al., 2007; Yi & Tidwell, 2005). These cultural factors may result in underutilization of mental health treatment among Chinese and Korean immigrants (Casado & Leung, 2002).

**Situational factor on depression among Korean immigrant elders.**

Because of the difficulty gathering sufficient data from relatively small sample sizes of Asian American elders, most studies on Asian immigrant elders have used samples from Metropolitan areas where ethnic enclaves have been well established. Therefore, few studies have examined the relationship between acculturative stress and depression among Korean immigrant elders living in non-ethnic enclaves. One study has used a Korean immigrant elderly sample that resides in non-ethnic enclaves in Arizona and examined the relationship between acculturative stress and depression (Kang et al., 2009). Kang et al. have compared the depression rate of their sample with that of Mui and Kang’s (2006) study sample, a probability sample of Asian immigrant elders residing in New York urban ethnic enclaves. In Mui and Kang’s study, 24% of Korean immigrant elders reported mild to severe depressive symptoms, which were relatively lower levels of depression compared to 40% of the total Asian sample reporting depressive symptoms. However, in Kang et al.’s study, 38.1% of Korean immigrant elders in Arizona reported depressive symptoms, which were much higher than those of New York counterparts.

Kang et al. (2009) have found that Arizona Korean immigrant elders residing in
non-ethnic enclaves are more depressed and have less coping resources including English language proficiency and family support than those living in New York ethnic enclaves. For Korean immigrant elders residing in non-ethnic enclaves, low levels of acculturation with limited English proficiency, low psychological resources, and poor social support are likely to exacerbate acculturative stress, which can lead to depression. Therefore, given that ethnic enclaves may provide coping resources and social interaction to Korean immigrant elders, the researchers suggest that Korean immigrant elders residing in non-ethnic enclaves are more likely to experience higher acculturative stress, which in turn, leads to higher rates of depressive symptoms than those residing in NY urban ethnic enclaves.

Kang et al. have found that limited English proficiency was the strongest predictor of depression among Arizona Korean immigrant elders. Due to lingual barriers, Korean immigrant elders residing in non-ethnic enclaves are less likely to seek social and mental services or treatment even when they are experiencing high levels of acculturative stress. Their inhibited feelings and thoughts may lead to depression, which should be detected and treated in a timely manner. However, Korean immigrant elders residing in non-ethnic enclaves may not get access to culturally sensitive services or treatments. Therefore, it is important to examine why Korean immigrant elders residing in non-ethnic enclaves experience high levels of acculturative stress. Thus, the current study on acculturative stress of Korean immigrant elders residing in non-ethnic enclaves is important because it will provide knowledge of the sociocultural aspects of acculturative stress of the understudied population and insight into the needs for culturally sensitive and meaningful social and mental services to those underserved population living in non-
In summary, numerous studies have found that there is a significant relationship between acculturative stress and depression among Asian immigrants. Especially Asian immigrant elders have reported higher rates of depressive symptoms than other American elders. Untreated or undetected depression can be a risk factor associated with suicide among the elderly. Despite the high rates of prevalence of depressive symptoms among Asian immigrant elders, their depressive symptoms have been unrecognized and underserved by the health care providers. Asian immigrant elders tend to report their somatic symptoms and not to acknowledge their psychological distress as depression. Culturally different symptom expressions, definitions of depression, and illness responses among Asian immigrant elders should be examined to explain the relationship between acculturative stress and depression among Asian immigrant elders. However, cultural variations in depression do not account for why Korean immigrant elders residing in non-ethnic enclaves report more depressive symptoms than those residing in ethnic enclaves. Thus contextual or situational factor such as the availability of ethnic enclaves should be considered as an important factor in studying the relationship between acculturative stress and depression among Korean immigrant elders. In the next section, literature on coping resources will be reviewed to examine the roles of coping in the stress and distress process.

**The Effects of Coping on Acculturative Stress and Depression**

High levels of acculturative stress can persist and lead to depression among immigrant elders. However, not all immigrant elders will succumb to depressive
symptoms. They use their coping resources and strategies to reduce or buffer acculturative stress. This study is interested in examining the coping efficacy of personal resources of Korean immigrant elders residing in non-ethnic enclaves, where the previous study samples have not been collected. Therefore, this section will review literature on the effects of coping resources on acculturative stress and depression among immigrants. The two subsections will review literature on the effects of coping resources, including psychological coping resources and social support, on depression in order to establish the important roles of coping resources in mediating or buffering stress on depression.

**Psychological coping resources.**

As coping resources, psychological resources consist of the sense of mastery, self-esteem, locus of control, beliefs, and feelings of personal competence and play a central role in the stress and coping process (Lazarus & Folkman, 1984). Past studies of the general population have used the sense of mastery and self-esteem as their indicators of psychological resources (Ensel & Lin, 1991; Lin & Ensel, 1989; Pearlin et al., 1981; Pearlin & Schooler, 1978); however, most studies on Asian immigrant elders have tested not only personality characteristics such as the sense of mastery (hardiness; perceived control) and self-reinforcement (self-esteem) but also personal coping resources associated with acculturation such as religiosity and the level of acculturation, measured by either the length of stay in the United States, or cultural or ethnic identity, or both (Diwan et al., 2004; Kuo & Tsai, 1986; Mui & Kang, 2006; Mui & Shibusawa, 2008; Noh & Avison, 1996; Wong, Heiby, Kameoka, & Dubanoski, 1999).

Past studies of the general population have used longitudinal representative data and documented the lack of coping efficacy of psychological resources on psychological distress when integrating psychological and social resources in the stress process (Ensel
& Lin, 1991; Pearlin et al., 1981). In contrast, most studies of Asian immigrants are cross-sectional and have yielded mixed results on coping efficacy of psychological resources. Diwan, Jonnalagadda, & Balaswamy (2004) and Shin, Han, & Kim (2007) have used the same scale of the sense of mastery that was used by Pearlin and his colleagues (1978, 1981) in order to measure people’s belief and capacity to be in control of life’s difficulties. The two studies have also examined the effects of psychological and social resources on positive and negative affect outcomes of stress. Diwan et al. have found that feelings of mastery have reduced negative affect, while satisfaction with one’s social network has increased positive affect of Asian Indian first-generation immigrant elders. Shin et al. have also found that increased sense of mastery was associated with less depression, while greater social support was strongly associated with greater happiness among Korean immigrants. Both study findings have suggested that the sense of mastery and social support may buffer the effect of stress on depression while increasing positive feelings of happiness. However, such results based on cross-sectional data do not indicate how directly or indirectly sense of mastery and social support are integrated to cope with stress, contrary to the results of past studies based on longitudinal data. In another cross-sectional study of Asian immigrants, Kuo and Tsai (1986) have defined hardiness as an internal-control-and-mastering trait that has the quality of the immigrant’s purposive action. They have suggested that hardiness can buffer stresses associated with immigration, which will reduce psychological distress.

In a two-wave longitudinal study with a large sample of Korean immigrants living in Toronto, Noh and Avison (1996) have examined the relationship between stressors, psychosocial coping resources, and psychological distress. Contrary to the findings of
past studies of the general population (Ensel & Lin, 1991; Pearlin et al., 1981), this study has found that psychological resources have played a more significant role in the stress process than social resources; however, the effects of psychological resources on psychological distress have helped to deter rather than cope with stress. Psychological resources such as mastery and self-esteem had direct effects on psychological distress independently of stressors. Preexisting mastery and self-esteem (measured at first wave) suppressed the effects of subsequent stressful life events (measured at the second wave), so it resulted in reduced psychological distress. Preexisting mastery was able to moderate the current effects of stressful life events, which increased the amount of variance of psychological distress. However, when the stressor was measured as chronic strains, preexisting mastery and self-esteem couldn’t moderate directly or indirectly chronic strains. These findings have confirmed the deterring model in which preexisting psychological resources had deterred effects of current stressor on psychological distress, which are contrary to findings of Ensel and Lin (1991) in which psychological resources enhanced social resources, which reduced psychological distress, and social resources were able to mediate the positive effects of preexisting stressors to weaken psychological distress. Noh and Avison couldn’t find the stress-buffering effects of the coping model, but they found that preexisting stressful experience could increase people’s subsequent self-esteem, which, in turn, reduce the levels of psychological distress. Noh and Avison’s findings strongly indicate the importance of mastery as a deterrent effect on distress; however, the findings do not strongly confirm the buffering or mediating effect of mastery on psychological distress.
Wong, Heiby, Kameoka, and Dubanoski (1999) have examined the effects of only psychological resources on depression, without integrating with social resources and stressors. The study is different from previous studies of immigrant elders because their sample includes Caucasian and Asian American elders with good English proficiency and the study conducted two interviews in 5 months intervals. The researchers used the Elder Life Adjustment Interview Schedule (ELAIS) to examine the role of perceived control and self-reinforcement (self-esteem) in depression among community-dwelling elders. Their finding suggests that increased self-reinforcement and perceived control predict decreased depression among elderly individuals concurrently and 5 months later for the total sample and self-reinforcement is the most significant predictor of depression for both Caucasian and Asian elders. Unlike self-reinforcement, the researchers have found that perceived control predicts depression concurrently and 5 months later for only Caucasian elders. These findings suggest that ethnic differences should be considered in treatment and prevention planning of depression: More problem-solving coping strategies relevant to the role of perceived control are more likely to be effective for Caucasian elders than for Asian elders.

Contrary to past studies of the general population (Ensel & Lin, 1991; Lin & Ensel, 1989; Pearlin et al., 1981; Pearlin & Schooler, 1978), empirical studies on Asian immigrants have not only examined the coping efficacy of personal characteristics such as the sense of mastery and self-esteem but also the coping effects of the level of acculturation and religiosity on psychological distress. The level of acculturation has been measured through the length of stay in the United States and cultural/ethnic identity. When the level of acculturation was measured through an indicator of the length of stay
in the United States, studies have shown mixed results. It was not a significant predictor of depression in studies of Diwan et al. (2004) and Shin et al. (2007), whereas it was a significant predictor of depression in the study of Mui and Kang (2006). When the level of acculturation was measured by cultural/ethnic identity (Diwan et al., 2004) or perceived cultural gap (Mui & Kang, 2006; Mui & Shibusawa, 2008), it was strongly associated with negative affect (depression): More bicultural or American cultural identity and less perceived gap was associated with less depression (Diwan et al., 2004).

Religious beliefs or religiosity can be viewed as a personal psychological resource; however, it can be different from personal characteristics because religious beliefs can be influenced and shaped by environmental factors. Religiosity has been examined as a personal coping resource in many studies on the relationship between acculturation and depression among Mexican immigrant adults (Hovey, 2000), Asian Indian adults aged 50 or older (Diwan et al., 2004), Asian American elders (Mui & Kang, 2006), and Korean immigrant elders (Hurh & Kim, 1990; Kang et al., 2009; Lee, Moon, & Knight, 2005). Religiosity has been measured as the perceived importance of religion, religious or spiritual activity, church attendance or affiliation, or influence of religion. These studies have found that increased religiosity has reduced negative affects or depressive feelings (Diwan et al., 2004; Mui & Kang, 2006) or played a strong protective role against suicide risk (Hovey, 2000). Diwan et al. have found that religiosity did not increase the positive affects of Asian Indian adults aged 50 or older residing in the metropolitan Atlanta area, but it reduced the negative affects in the Center for Epidemiological Studies-Depression Scale Short Form by functioning as a personal coping resource in providing meaning and purpose in life. Mui and Kang (2006) have
found that religiosity played a role in coping with acculturation stress and had a significant negative impact on scores of GDS among Asian American elders aged 65 or older residing in New York City. Even though prior studies showed that a great majority of Korean elderly immigrants had extensive affiliation with the Korean ethnic church and religiosity had negatively impacted their depressive feelings, religion did not become a strong predictor of depression (Hurh & Kim, 1990; Kang et al., 2009; Lee et al., 2005).

**Social support.**

A number of studies on Asian immigrant elders have shown that social support as a personal coping resource has been effective in alleviating acculturative stress and promoting better psychological wellbeing (Diwan et al., 2004; Kuo & Tsai, 1986; Han et al., 2007; Mui, 1996, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008; Noh & Avison, 1996; Shin et al., 2007). Most of the studies have documented the stronger coping efficacy of perceived social support on psychological distress than received social support (Diwan et al., 2004; Han et al., 2007; Mui, 1996, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008; Noh & Avison, 1996). In Mui and Kang’s (2006) study of Asian immigrant elders, received social support from adult children was one of several strong predictors of depression: More assistance from adult children was related to higher levels of depression, which is consistent with the findings from past studies of the general population that couples receiving support experienced increased distress (Bolger, Zuckerman, & Kessler, 2000; Wethington & Kessler, 1986).

Most studies on Asian immigrants have conceptualized social support as an integrative concept operationalized to encompass structural and functional dimensions of social support, such as the size of the social network, existence of close/good friends, frequency of contact with friends, proximity of children, living arrangement, perceived
satisfaction with family help, appraisals of the levels of social support, or emotional support. When structural social support is measured, studies on Asian immigrants have yielded mixed results. The size of support network has not been associated with depressive symptoms (Han et al., 2007; Mui, 1996); however, having fewer number of good friends has been shown to be associated with depression (Mui, 1996; 2000; Shibusawa & Mui, 2002) and satisfaction with one’s social network or support from friends are associated with positive affect or more general psychological wellbeing, but not with negative affect or depression (Diwan et al., 2004). Kuo and Tsai’s (1986) study has similar findings--that structural social support as measured by the availability of close friends, a larger close circle, and a higher density (interconnectedness among people living in one’s inner circle) has promoted mental health among Asian immigrants. In Noh and Avison’s (1996) study, structural social support was measured twice through the Provisions of Social Relations Scale to evaluate respondents’ ethnic and general social support. Ethnic social support had a significant negative effect on depressive symptoms; however, general social support had no significant effect on depressive symptoms. General social support from non-ethnic providers did not provide any benefits of reducing depressive symptoms among Korean immigrants living in Toronto, whereas ethnic social support has a direct and indirect effect on psychological distress. The findings are consistent with those of Thoits (1986) who hypothesized sociocultural similarity--that social support is effective in reducing psychological distress when support providers and receivers share their sociocultural or situational similarity and providers show empathic understanding of stressful situations that support receivers experience. The finding suggests that Korean immigrant elders facing stressors may be able to cope
well with stress when they receive social support from those who have the similar ethnic background and are able to understand specific ethnic needs and values.

Among the studies on stressors, social support, and psychological distress of Asian immigrant elders, only three studies (Han et al., 2007; Kuo & Tsai, 1986; Noh & Avison, 1996) have examined the buffering effects of social support on psychological distress; however, none has found stress-buffering effects, which is consistent with the findings of past studies of the general population that structural social support rarely has stress-buffering effects on psychological distress (House & Kahn, 1985), whereas functional social support has shown the stress-buffering effects on psychological outcomes more consistently than structural social support (Cohen & Wills, 1985; Kessler & McLeod, 1985; Krause, 2004; Wethington & Kessler, 1986).

Cohen and Wills (1985) address the methodological requirement for testing a stress-buffering effect of social support on psychological distress: An optimal sample size with increased variability of stress, support, and symptomology, valid and reliable measurement instruments, and longitudinal study designs. Most studies on Asian immigrants have used cross-sectional studies. Although they used multivariate regression to control for socio-demographic variables and examined high correlation between support and stress, there are possible overlaps between stress and support measures or there is a lack of variability in social support measures (Kuo & Tsai, 1986). Most studies have measured stress with a checklist of stressful life events; however, stressful events imply the temporary loss of social support. As Cohen and Wills have pointed out, there may be some confounding of stress and support measurement. For example, in Mui’s (1996) study, stressful life events were not entered into regression
since it was highly correlated with perceived dissatisfaction with family help, which was one of predictors for depression. This strongly indicates that there should be a clear measurement that does not overlap between stress and support. Even with longitudinal data of Korean immigrants, Noh and Avison (1996) have found no buffering effects of social support on psychological distress. The finding may be related to the use of a more homogeneous sample that may not have broad ranges of stress, social support and symptomatology, compared to general population samples with high variability of stress, support, and symptomology.

In an empirical study of Chinese and Korean immigrant elders, Wong, Yoo, and Stewart (2007) have examined the relationship between social support and psychological wellbeing without including stress variables. The researchers have found that functional social support, such as emotional/companionship social support, has significantly contributed to better overall psychological wellbeing, that is, less depression, and higher positive affect. However, the researchers have pointed out that Chinese and Korean immigrants have experienced changing cultural values about family relationships and filial piety, which affect Chinese and Korean immigrant elders’ perception of their family support. Several studies have shown that since Chinese and Korean immigrant elders have high cultural expectations toward their adult children’s filial piety and obligation (Mui & Shibusawa, 2008), social support such as quality family help and the number of good friends (Mui, 2000) and geographic proximity to and strong kinship ties among family members and co-residence with family (Wilmoth & Chen, 2003) can mediate stressful experience as a coping mechanism and enhance immigrant elders’ wellbeing. Some studies, however, have shown inconsistent findings: that more Asian elders live
alone and adult children value less filial obligation (Mui & Shibusawa, 2008; Wong et al., 2006). Even when Asian elders live with their children (Wong et al., 2007) or receive more assistance from their adult children (Liang, Krause, & Bennett, 2001; Mui & Kang, 2006), the elders may report higher levels of depression or distress. Other studies have shown that when adult children are more acculturated, they tend to have lower degree of filial obligation (Mui, 2000) or may exchange support and assistance based on feelings of reciprocity rather than based on filial obligations (Wong et al., 2007). Although Kauh’s (1997) descriptive study found no deteriorated intergenerational relationships among Korean American families living in the Philadelphia area, changing cultural values and family relationship may generate intergenerational conflicts and negatively affect social support system and psychological wellbeing of Chinese and Korean immigrant elders (Mui & Shibusawa, 2008; Wong et al., 2006, 2007).

Wong et al. (2007) have found that more Koreans immigrant elders have depression than Chinese immigrant elders. This finding suggests that Korean immigrant elders may have difficulties in expanding their social network beyond Korean-speaking people, whereas Chinese elders are more expansive social network established in San Francisco area. Noh and Avison (1996) have presented strong evidence that ethnic social support has a direct effect on depressive symptoms of Korean immigrant elders and an indirect effect through subsequent life stressful events. On the contrary, general social support from the broader community has no direct and indirect effect. In that respect, ethnic community or enclaves may be able to provide more ethnic community services and decrease social isolation (Treas & Mazumdar, 2002; Wong et al., 2007) to those...
Korean immigrant elders who do not need to depend on their adult children due to their lingual limitation (Kang et al., 2009; Wong et al., 2005).

In summary, this section has reviewed literature on the effects of coping on acculturative stress and depression among immigrants. Coping resources including psychological and social support have been found effective in reducing depressive symptoms. Studies have yielded evidence that the level of acculturation and religiosity as well as self-esteem and mastery have had positive coping effects on psychological distress among Asian immigrant elders. The structural dimension of social support, especially perceived ethnic social support, has yielded direct and indirect effects on psychological distress; however, it rarely had a stress-buffering effect, which indicates methodological limitations in terms of sampling and measurements. The functional dimension of social support is beneficial to psychological wellbeing of Asian immigrant elders; however, changing cultural values and norms as well as family relationships among immigrants may deteriorate the quality of family support, which is more likely to affect negatively psychological wellbeing of Asian elders who are more isolated from the mainstream society or do not reside in ethnic enclaves.

**Conceptual Framework for Study**

The following three main premises based on the theoretical and empirical studies have guided the study conceptual framework: (1) stress is determined by the relationship between the person and the environment; (2) culture influences and shapes the appraisal of stress and coping efforts; (3) an individual facing stressors is able to cope with stress when psychosocial resources function to meet the individual’s specific needs and values elicited by stressors. These premises will be applied in the study on Korean immigrant
elders who experience acculturative stress due to residing in areas without any Korean ethnic enclave.

When they live in an environment in which no Korean ethnic enclave is established, Korean immigrant elders with cultural and lingual barriers may get limited access to sociocultural resources that majority elders are able to get access to. While experiencing such sociocultural demands and structural constraints, Korean immigrant elders may face and deal with an array of stressors associated with acculturation and perceive them as stressful. When they lack internal and external coping resources and do not have any coping strategy to mediate or buffer against their acculturative stress, their acculturative stress may increase the risks of suffering psychological distress. Therefore, the study attempts to understand and gain insight and knowledge about what stressors Korean immigrant elders living in non-Korean ethnic enclave might perceive as stressful, to what extent their personal factors are associated with stressors and depressive symptoms, and how they have used their psychological resources and social support to cope with acculturative stress. See Figure 2.1 for the conceptual framework of the study.

**Research Questions**

Five research questions were formulated in this study:

1) What variables are strongly associated with acculturative stress of Korean immigrant elders residing in areas without Korean ethnic enclaves?

2) What variables are strongly associated with depressive symptoms of Korean immigrant elders residing in areas without Korean ethnic enclaves?
3) What aspects of acculturative stress have been appraised as most stressful and associated with depressive symptoms among Korean immigrant elders who reside in areas without Korean ethnic enclaves?

4) What are the effects of acculturative stress on the relationship between personal factors (SES, length of stay, living arrangement, the level of acculturation, and stressful life events) and depression?

5) What are the effects of coping resources and somatization on the relationship between Korean immigrant elders’ acculturative stress and their depressive symptoms?
Figure 2.1. The Conceptual Framework of the Study
Chapter 3. Methodology

This chapter describes research methodology that the study utilizes. It starts with research design, followed by sampling, conceptual and operational definitions of study variables, research procedure, data analysis, and research questions.

Research Design

This cross-sectional study utilized a structured survey to obtain demographic data and to explore the relationships between acculturative stress, coping, and depressive symptoms among Korean immigrant elders residing in areas without Korean ethnic enclaves. The survey was administered through three different methods: the self-administered mail survey, the phone survey, and the in-person interview survey.

Sampling

This study used two types of non-probability sampling: convenience sampling and snowball sampling. Participants were selected based on the following criteria: (1) Korean immigrant males and females aged 60 and older who are first-generation; (2) non-institutionalized; (3) currently residing in areas of Southwestern Ohio, North Central region of Kentucky, and Southern Indiana; and (4) physically and cognitively able to participate in the study.

The previous study (Hurh & Kim, 1984) of Korean immigrants suggested that random sampling be based on the Korean directories and membership lists. According to the 2010 Census, Koreans represent a very small percentage of the total population of Ohio (0.1%), Kentucky (0.1%), and Indiana (0.2%) where the study sites are located (U.S. Census Bureau, 2010). Given that even a smaller percentage of Korean elders
reside in the study sites, the principal investigator decided to use two non-probability sampling selection methods: convenience and snowball sampling.

The initial targeted sites for sample selection were Cincinnati, Lexington, and their surrounding areas; however, given the low response rates of the initial survey, the study sites were further extended to the following cities--Columbus, Hamilton, and their surrounding cities of Ohio, Louisville, Radcliff, and their surrounding cities of Kentucky, and cities of Southern Indiana--using snowball sampling. Unlike the metropolitan cities such as New York, Chicago, and Los Angeles, where the Korean community enclaves are well established, the study sites were selected for the reason of the unavailability of Korean ethnic enclaves, the so-called Koreatown communities (Kang et al., 2009; Moon et al., 1998).

At the initial phase of data collection, convenience sampling was employed to locate a list of Korean residents residing in Cincinnati, Lexington, and their surrounding areas; however, there were no latest Korean directories of the targeted cities available. The 2008 Korean Directory of Cincinnati was obtained from a Korean resident, but that was the only directory available at the initial phase of data collection. There was no Korean Directory of Lexington available. Thus, the 2008 Korean Directory of Cincinnati was used to recruit study participants. The directory listed names, residential addresses, and phone numbers of Korean-Americans residing in Cincinnati and its surrounding cities in Northern Kentucky and Southern Indiana. However, the directory did not provide any information about Korean American residents’ age. In order to confirm whether the potential participants met the age criterion of the study, the online telephone directory website (www.whitepages.com) was used to obtain information about
the age range. Since the Korean Directory of Lexington was not available, the online
television directory was used to identify any Korean immigrant elders with Korean
unique surnames (e.g., Park, Kim, Pang, and so on) in Lexington and its surrounding
areas.

At the initial phase of data collection, convenience sampling produced a low
response rate. Thus, snowball sampling was used to identify more Korean immigrant
elders by asking for referrals of other Korean immigrant elders. Several participants
guided the principal investigator to their Korean ethnic churches located in Cincinnati,
Columbus, and Louisville. Since a large majority of Koreans attend Korean ethnic
churches in their communities and each Korean church has its own directory of
congregation, four reverends from the four largest Korean churches were contacted by
phone and they were informed of the study purpose and method and asked for their
assistance. After the phone contacts, two Cincinnati Korean church reverends, one
Columbus Korean church reverend, and one Louisville Korean church reverend received
Korean and English versions of recruitment letters and questionnaires by email. The
four reverends willingly agreed to assist on recruiting potential participants by
advertising the study to their congregation after their Sunday services. The reverends
emailed the principal investigator the list of potential participants who were interested in
the survey.

Korean directories of major Kentucky cities such as Lexington or Louisville were
not available at the initial phase of data collection. With the use of snowball sampling,
however, the principal investigator was able to locate an ex-president of Korean-
American Association of Kentuckiana, who provided me with the 2009-2010 Korean
Directory of Kentucky that listed names, addresses, and phone numbers of Korean Americans residing in Louisville, Frankfort, Radcliffe, Fort Knox, Elizabethtown, Oak Grove of Kentucky and a few cities of Southern Indiana. The principal investigator then used the Korean directory and the online telephone directory (www.whitepages.com) to identify potential participants who met the age criterion. The additional survey recruitment letters were sent out to these participants.

**Conceptual and Operational Definitions**

The structure and contents of the questionnaire are illustrated in Appendix A through H. The questionnaire consisted of variables in the following areas: (1) socio-demographic data; (2) the level of acculturation; (3) stressors: instrumental activities of daily living, stressful life events, and acculturative stress; (4) coping resources: religiosity and social support; (5) depression; (6) somatization. This study used multiple regression analyses and path analyses; therefore, independent variables in multiple regression analyses would become either exogenous or endogenous in path analyses. Depression is a dependent or endogenous variable in this study. The level of acculturation, acculturative stress, religiosity, social support, and somatization are independent or endogenous variables. Instrumental activities of daily living, stressful life events, and socio-demographic variables are independent or exogenous ones. This section describes the conceptual and operational definitions of study variables and introduces the instruments used to measure those variables. All the instruments used in this study are either available in the public domain or given permission by the original authors.
Dependent (endogenous) variable.

**Depression.** Depression is conceptually defined as “a feeling state of sadness, hopelessness, and demoralization that may be as fleeting as a momentary nostalgia or as lasting as prolonged grieving” (Kleinman & Good, 1985, p. 9). Depression will be operationally defined by the total score of the Geriatric Depression Scale-Short Form (GDS-SF; Sheikh & Yesavage, 1986; see Appendix G). Since Korean immigrant elders tend to express their depressive symptoms in the form of somatization (Casado & Leung, 2002; Pang, 1995; 2000), depression refers to affective, cognitive, and behavioral symptoms (e.g., depressed mood, loss of pleasure, diminished concentration, and feelings of worthlessness) as well as psychosomatic symptoms (e.g., headache, dizziness, chronic aches and pains, mild functional impairment, and insomnia). However, the GDS-SF does not include any item indicating somatic symptoms; therefore, this study will also use the 12-item Somatization subscale of the Symptom Checklist Scale-90 (SCL-90; Derogatis, Lipman, & Covi, 1973) in order to examine the relationship between depression and somatic symptoms among Korean immigrant elders.

The GDS-SF is a 15-item self-reporting scale with a yes/no response format and screens for depression in the elderly (Sheikh & Yesavage, 1986). Sheikh and Yesavage developed the GDS-SF from the original 30-item GDS (Brink et al., 1982) by selecting 15 items with the highest correlation with depressive symptoms in their validation studies. The GDS and the GDS-SF were tested and found successful to screen for depression in the physically healthy and ill elderly (Sheikh & Yesavage, 1986). The shorter version can be easily administered orally or in a written format in a shorter length of time (e.g., an average of 5 to 7 minutes) and avoids questions that might make the elderly defensive or refuse to answer; therefore, Sheikh and Yesavage strongly suggested
that the GDS-SF be useful and advantageous for not only healthy old adults but also physically ill and mildly or moderately demented ones that feel easily fatigued and have limited ability to concentrate. Thus, the GDS-SF has been used for elders dwelling in the community as well as those residing in acute and long-term care settings.

The GDS-SF contains questions related to affective mood without somatic symptoms. Of the 15 items, 5 items are positive (e.g., “Are you basically satisfied with your life?” “Are you in good spirits most of the time?”), and 10 items are negative (e.g., “Do you feel that your life is empty?” “Do you often feel helpless?”). The 5 positive items are indicative of depression when answered negatively, whereas the 10 negative items indicate depression when answered positively. With a yes/no response format, the scale scores 0 point for each response indicating non-depressive answer and 1 point for each response indicating depression. Thus, scores range from 0 to 15; scores of 0 to 5 suggest no depression; 6 to 9 suggest mild depression; 10 to 15 indicate moderate to severe depression.

The original GDS had a high degree of internal consistency reliability with an alpha of .94, split-half reliability of .94, and one-week test-retest reliability of .85, when it was compared with the Zung’s Self-Rating Depression Scale (SDS) and the Hamilton Rating Scale for Depression (HRS-D). The GDS also showed a high concurrent validity with high rates of specificity and sensitivity as well as a high convergent validity with correlations of .83 with the SDS, and .84 with the HRS-D (Sheikh & Yesavage, 1986; Yesavage et al., 1983). In a validation study comparing the original GDS with the GDS-SF, both scales successfully distinguished depressed from non-depressed older adults with a high correlation (r = .84, p < .001) (Sheikh & Yesavage, 1986). The GDS and the
GDS-SF have been reported to be a highly reliable and valid measure of depression in diverse elderly populations. For community-dwelling Korean immigrant elders, Kang et al. (2009) and Mui (2000) used the Korean translated GDS. Mui reported a high alpha coefficient of .88 and its split-half reliability of .84, whereas Kang et al. (2009) reported a highly reliable alpha coefficient of .89.

Three studies used the Korean translated GDS-SF and validated its psychometric properties (Jang, Small, & Haley, 2001; Jang, Kim, & Chiriboga, 2005a; Jang & Chiriboga, 2010). Jang, Kim, and Chiriboga (2005a) found an acceptable reliability of .79 among community-dwelling Korean American elders in Florida, whereas Jang and Chiriboga (2010) reported the scale’s internal consistency of .81 among community-dwelling Korean American elders in Florida. In their cross-cultural study, Jang, Small, and Haley (2001) examined the structure and validity of the GDS-SF by measuring depression between Korean elders and American elders. Both samples showed good internal consistency reliability with coefficient alphas of .85 and .77 and split-half reliability of .77 and .73 for Korean elders and American elders, respectively; however, their factor analysis showed different factor structures between two cultural samples with factor congruence coefficient below .90. The study findings indicate that the cross-cultural comparability of the GDS-SF measure is not high in the two cultures.

Independent (endogenous) variables.

The level of acculturation. As discussed in the Literature Review in Chapter 2, acculturation is a multidimensional construct including ethnic identity, familism, traditionalism, cultural knowledge, cultural behaviors, and language use (Escobar & Vega, 2000). Thus, the level of acculturation is conceptually defined as “the degree to which individuals are influenced by and actively engage in the traditions, norms, and
practices of one or more cultures” (Diwan, 2008, p. S185). The level of acculturation is operationally defined by language use, cultural behaviors, values, attitudes, and ethnic identity, which are measured by the Suinn-Lew Asian Self-Identity Acculturation scale (SL-ASIA; Suinn, Richard-Figueroa, Lew, & Vigil, 1987; see Appendix C) in this study.

The SL-ASIA scale was developed to assess the multidimensionality of acculturation in Asian Americans. The scale consists of 21 multiple-choice items that assess the following areas: 4 language questions (e.g., “What language can you speak?” “What language do you prefer?”), 4 identity questions (e.g., “How do you identify yourself?”), 4 friendship choice questions (e.g., “Whom do you now associate within the community?”), 5 behaviors questions (e.g., “What is your food preferences at home?” “Do you participate in Asian occasions, holidays, traditions, etc.?”), 3 generation/geographic history questions (e.g., “What generation are you?” “Where were you raised?”), and 1 attitudes question (“If you consider yourself a member of the Asian group (Oriental, Asian, Asian American, Chinese American, etc., whatever term you prefer), how much pride do you have in this group?”). Since this study examines first-generation Korean immigrant elders, the three items regarding generation and parental identity (e.g., “What generation are you?,” “Which identification does (did) your mother use?,” and “Which identification does (did) your father use?”) were deleted. Thus, the scale was averaged for 18 items, and the individual’s final acculturation scores ranged from 1 (low acculturation reflecting high Asian identification) to 5 (high acculturation reflecting high Western identification). The scale questions not only respondents’ actual behaviors, but also their preferences. The responses of the scale allow for recognizing specific Asian ethnic groups, such as Chinese, Japanese, Korean, and so on.
The original SL-ASIA had a high degree of internal consistency with an alpha of .88 among the 21 items. In a validation study comparing the original SL-ASIA with the Acculturation Rating Scale for Mexican Americans (ARSMA; Cuellar, Harris, & Jasso, 1980, as cited in Suinn et al., 1987), the SL-ASIA was significantly correlated to generational level, to place of origin (the length of stay in the United States), and self-rating identity, which are similar to the Hispanic scale highly correlated to generational level, professional judges’ ratings of ethnic identity, and to place of origin (Suinn et al., 1987). Using a sample of 324 adults, Suinn, Ahuna, and Khoo (1992) reported the 21-item SL-ASIA’s internal consistency of .91. The study confirmed the scale’s concurrent validity that indicates that the scale measures levels of Asian-American identity. The study analyzed the factorial validity of the scale by comparing the ARSMA. The SL-ASIA found three factors that were similar to those of the ARSMA: reading/writing/cultural preference, ethnic interaction, and generational identity. However, two other factors of the SL-ASIA such as ethnic identity and pride, and food preference, were not identified in the ARSMA.

The scale was also used in a cross-cultural study comparing Singapore Asians with Asian American University students (Suinn, Khoo & Ahuna, 1995) and the study confirmed that the scale is a valid and reliable measure for the level of acculturation among Asians and Asian Americans. Oh, Koeske, and Sales (2002) used the original scale and retained 15 out of 21 items. Three items (generational/geographic history) and three additional items (preferences in restaurant food, movies, and music) were not used since the former was not relevant to a sample of Korean immigrants who had immigrated after age 18 and the latter had low factor loading. The Oh et al.’s study reported two
factors: One was language/reading/writing merged with ethnic interaction, and the other, self-reporting identity and pride, and involvement in Korean traditions and values. They were partially similar to the five-factor structure of the scale (Suinn et al., 1992).

**Acculturative stress.** As one of stressors, acculturative stress is conceptually defined as “the appraised stress” (Jang & Chiriboga, 2010, p. 14) that may arise due to different levels of acculturation (Berry et al., 1987; Lazarus & Folkman, 1984; Oh et al., 2002; Williams & Berry, 1991). Several studies have measured acculturative stress by using several distinct indicators rather than by a global acculturative stress scale. Accordingly, several acculturative stress indicators may be overlapping with other variable measures; therefore, they may confound the research outcomes. Such methodological issues have contributed to the lack of construct validity of acculturative stress constructs in most studies. Therefore, in this study, acculturative stress will be measured directly through the Acculturative Stress Index (ASI; Noh & Avison, 1996; see Appendix E) with high construct validity and reliability that can assess the magnitude of multidimensional stress.

The ASI is a 31-item scale developed by Noh and Avison (1996) to measure chronic life strains associated with acculturation, especially in seven areas: language difficulty, homesickness, social isolation, social discrimination, sense of marginality, opportunity for occupational and financial mobility, and family problems. Each item is rated on a 4-point scale ranging from 1 (*never*) to 4 (*very often*). The scale can be scored to add up all the answers for all 31 items and the total value reflects the extent to which an individual experiences stressfulness due to their difficulty adjusting to a new culture or emotional demands during the process of acculturation. Higher scores are indicative of
experiencing high acculturative stress. Since the scale measures chronic life strains that persists and endures over time, it does not indicate the specific period of time over which a respondent experience stressfulness. The Noh and Avison’s (1996) study of Korean immigrants in Toronto had internal consistency reliabilities of the seven subscales ranged from .77 to .89. The study ran factor analyses and found that the scale had low correlations with the measure of social support, which indicated the discriminant validity of the ASI scale.

Religiosity. As a personal coping resource, religiosity is conceptually defined as perceived importance of religion and religious or spiritual activity. Religiosity is measured by two questions regarding the perceived importance of religion and the number of church attendance. In measuring religiosity, several studies asked respondents about their perceived importance of religion (Diwan et al., 2004; Hovey, 2000; Kang et al., 2009; Mui & Kang, 2006; Mui & Shibusawa, 2008) and the number of church attendance and religious or spiritual activities (Diwan et al., 2004; Hovey, 2000). The question “how important is religion in your life?” measures the level of importance of religion upon respondents’ lives with a 3-point scale ranging from 0 (not at all important) to 2 (very important). The question “how often do you attend church?” measures respondents’ frequency of church attendance with a 6-point scale from 0 (never), 1 (once or twice a year), 2 (once every 2 or 3 months), 3 (once a month), 4 (two or three times a month), and 5 (once a week or more). The level of importance of religion variable consists of three scoring values, while the frequency of church attendance variable consists of six scoring values. Since the two variables have a different range of values, creating a composite variable of religiosity by simply adding up scores of each variable
would not measure the concept adequately. Thus, each variable will be weighted by using the weight formula (% stratum in population / % stratum in sample). Scores from the two weighted variables will be summated and used as a measurement for religiosity in this study. The scores range from 0 to 6.79 and greater scores reflect greater religiosity.

**Social support.** Social support is conceptually defined as perceived satisfaction with family and/or friend assistance, appraisal of emotional support, and social relationships (Noh & Avison, 1996). Social support is measured by the Provision of Social Relations scale (PSR; Turner, Frankel, & Levin, 1983; see Appendix F). The PSR is a 15-item self-reporting scale to ask respondents about their perceptions of being loved, esteemed, and supported by the family and the friend. Each item is rated on a 5-point scale ranging from 1 (*very much like me*) to 5 (*not at all like me*). The scale has two factors: family support (items 4, 7, 10, 11, 12, 14) and friend support (items 1, 2, 3, 5, 6, 8, 9, 13, 15). All items are reverse-scored except the two negative items 7 and 15. And items on each sub-dimension of family and friend support can be scored. A total score is obtained by summing the scores on the sub-dimensions. Higher scores indicate greater levels of perceived social support. The scale has good internal consistency reliability with alpha coefficients ranging from .75 to .87; no test-retest correlations were reported; and it has good concurrent validity, correlating significantly with the Kaplan Scale of Social Support (Turner et al., 1983). The PSR is negatively correlated with several measures of psychological distress, indicating that the PSR has discriminant validity with other measures of psychological distress (Turner et al., 1983). Noh and Avison (1996) used the Korean translated scale in their study of Korean immigrants in Ontario. They used the scale twice to measure respondents’ ethnic social support from Korean
immigrants and general social support from non-ethnic community residents with no Korean ethnic background. They found high internal consistency reliability with alpha coefficients of .84 to .88.

**Somatization.** Somatization is conceptually defined as the experience and communication of psychological distress in the form of somatic symptoms (Katon et al., 1982). Somatization is operationally defined as “distress arising from perceptions of bodily dysfunction” (Derogatis et al., 1973, p. 13), which is measured by the 12-item somatization subscale of the Symptom Checklist-90 (SCL-90; Derogatis et al., 1973; see Appendix H). The SCL-90 is a 90-item self-reporting scale measuring nine multidimensional symptoms of psychological distress such as somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism (Derogatis et al., 1973). The first five dimensions of the scale were validated to numerous empirical studies and their reliability, validity, and factorial invariance have been well established. All nine subscales demonstrated strong internal consistency reliability ranging from .77 for psychoticism to .90 for depression. The internal consistency reliability for somatization was .86. The factor structure of the nine subscales also indicated the strong construct validity by demonstrating convergent validity with high correlations with the Minnesota Multiphasic Personality Inventory (MMPI) (Derogatis, Rickels, & Rock, 1976).

The GDS-SF does not include any item indicating somatic symptoms; therefore, this study will use the 12-item somatization subscale of the SCL-90 in order to examine the relationship between depression and somatic symptoms among Korean immigrant elders. Somatic complaints include symptoms of cardio-vascular, gastrointestinal,
respiratory, muscular-skeletal, and nervous systems. The subscale asks respondents to rate how much they were bothered by each symptom or distress in the past week on a 5-point Likert scale of distress, ranging from 0 (not at all) to 4 (extremely). Scores are added up and divided by the number of the items in the subscale, with higher scores indicating higher severity of experiencing somatic symptoms.

To test cross-cultural reliability and validity of the Korean version of the SCL-90, Noh and Avison (1992) examined the scale scores of community and patient samples of Korean immigrants living in Ontario and compared their scores with norms for Americans and for Koreans living in Korea. The study reported high internal consistency reliability with an alpha coefficient of .86 for somatization dimension of the community sample of Americans and .88 for that of Korean immigrants (no alpha coefficient for that of native Koreans was available). The researchers concluded that the Korean version of the SCL-90 was a reliable and valid cross-cultural measure of psychopathology for Korean immigrants. The study found that even though the community and patient samples of Korean immigrants reported higher levels of somatic complaints than those of Americans, native Korean patient and community samples reported higher levels of somatic complaints than the other samples.

**Independent (exogenous) variables.**

**Instrumental activities of daily living.** As one of stressors, instrumental activities of daily living are conceptually defined as levels of physical and cognitive function to perform daily activities necessary for living independently in their community. Instrumental activities of daily living are operationalized as scores resulting from the Lawton Instrumental Activities of Daily Living scale (IADL; Lawton & Brody, 1969; see Appendix B). The IADL scale is useful to assess the current independent living skills of
the elderly living in the community, and to identify any changes in their functional
capacities over time. The scale measures levels of cognitive and physical functioning in
the following eight domains: telephoning, shopping, food preparation, housekeeping,
laundering, mode of transportation, medication administration, and finance management.
Respondents are asked to circle a response under each category that most closely
describes their highest functional level (either 0 or 1). Scores ranges from 0 (low function
and dependence) to 1 (high function and independence). Since some domains such as
food preparation, housekeeping, and laundering, are excluded for men, men are scored on
all 5 domains of function and women are scored on all 8 domains of function. Thus,
men’s score of 5 can be regarded as high function. The inter-rater reliability of the scale
was established with 12 subjects at .85 (Graf, 2013). The concurrent validity of the scale
was established with a total of 180 research subjects and the scale had significant
correlations with four scales: the Physical Classification (6-point rating of physical
health), the Mental Status Questionnaire (10-point test of orientation and memory), the
Behavior and Adjustment rating scales (4-6 point measure of intellectual, person,
behavioral and social adjustment), and the Physical Self-Maintenance Scale (6-item
ADLs) (Graf, 2013). The scale is useful due to easy administration within the brevity of
time; however, since the scale consists of self-reporting items, it may overestimate or
underestimate respondents’ functional levels.

**Stressful life events.** As one of stressors, stressful life events are conceptually
defined as normative life changes such as status changes in marriage, employment,
relocation, and bereavement, as well as non-normative life changes such as serious
illness, accidents, job loss, divorce, and immigration (Aldwin, 2007; Lin & Ensel, 1989;
Thoits, 1995). The Life Events Questionnaire (LEQ; Brugha & Cragg, 1990; see Appendix D) scale operationally measures stressful life events. The LEQ scale is a 12-item self-reporting scale measuring stressful and threatening life events such as serious illness and injury, death of close friend or relative, unemployment, major financial loss, and loss of important relationships (Brugha & Cragg, 1990). The scale is useful due to its brevity of time. The scale asks respondents to identify stressful events over the past 6 months. If there is any stressful event that respondents identify, the response will be scored 1. So the total score will be the sum of all items that are identified as stressful. The scale has no cut off point; however, higher scores indicate greater likelihood that the identified stressful events had longer impact on respondents. The scale’s test-retest reliability was reported as .84 for a three-month period, whereas it was .66 for a six-month period (Brugha & Cragg, 1990). No data on its internal consistency is available (Fischer & Corcoran, 2007). When its concurrent validity estimates were examined at a three-month period, there was a 90% high agreement between inpatient psychotic patients’ identification of stressful events and those identified by their significant others. However, the percentage of agreement went down to 70% when its concurrent validity estimates were examined at six months. When it was rated through extensive interviews, the scale had good sensitivity (.89) and specificity (.74) identifying stressful events (Brugha & Cragg, 1990).

**Socio-demographic variables.** Socio-demographic variables are age (continuous), sex (0 = female, 1 = male), marital status (0 = other, 1 = married), living arrangement (0 = living alone, 1 = living with spouse only, 2 = living with spouse and children, 3 = living with children only, 4 = living with others), employment (0 =
unemployed, 1 = employed), individual income (0 = under $10,000, 1 = $10,000—$19,999, 2 = $20,000 --$39,999, 3 = $40,000 and over), education (0 = high school graduate or less, 1 = college graduate or more), and length of stay in the United States (0 = less than 5 years, 1 = between 5 and 10 years, 2 = between 11 and 20 years, 3 = more than 21 years). See Appendix A for the socio-demographic questionnaire. In this study, variables of employment, education, and individual income will be combined and weighted to measure socioeconomic status. Socioeconomic status scores can range from 0 to 4.67 and higher scores reflect higher socioeconomic status.

**Research Procedures**

This study was approved by full review of the University of Kentucky Non-Medical Institutional Review Board (IRB) in October 7th of 2012 (protocol #12-0758-F4S, see Appendix I). After the University of Kentucky IRB approval, Korean and English versions of recruitment letters (see Appendix J and K) were mailed to Korean residents in the targeted cities, explaining the purpose of the study, the position of the investigator, assurance of anonymity of respondents and confidentiality of data in the informed consent form, and information on small incentives for participation. There were no separate consent forms attached to the recruitment letters. The recruitment letters were used as the consent form of the study. If they agreed to participate in the study, the potential participants were asked to sign their names in the consent form and they were also asked to complete a one-page form attached to the consent form. The attached form indicated the potential participants’ preference in either participating in the self-administered mail survey, the phone survey, or the in-person interview survey. If potential participants chose either a phone survey or an in-person interview survey, they
were asked to provide their phone numbers, their preferred time and date, and/or place of contact. Once they completed the consent forms, they were asked to return them to the principal investigator’s home in Cincinnati within one week of their receipt. Enclosed was a postage-paid envelope with the principal investigator’s return address.

Once potential participants returned their consent forms and their preferred method of survey, the potential participants were sorted into three categories. If potential participants preferred a self-administered mail survey, they received the survey questionnaire by mail in the enclosed postage-paid envelope and postcard; otherwise, they might answer the survey by phone or in person. They were asked to return the completed questionnaire in the enclosed postage-paid envelope to the principal investigator, which would keep their information anonymous. They were also asked to return the enclosed postage-paid postcard separately. Once the postcard was received, they received a $15 Kroger card under separate cover. If they chose a phone survey, the principal investigator called them at their preferred date and time. Once the phone survey was completed, they received a $15 Kroger card under separate cover. If they chose a survey in person, the principal investigator met them at their preferred date, time, and place. After their in-person interview survey was completed, they received a $15 Kroger card in person.

The survey was administered in the targeted cities between October 17th of 2012 and March 21st of 2013. The survey consisted of structured self-administered questionnaire items. The questionnaire items were designed to obtain demographic data and to answer to specific research questions in this study. The questionnaire might take approximately 30 to 90 minutes to complete. The self-administered mail survey, the
phone survey, and the in-person interview survey were utilized as the primary data
collection methods. The mailed survey had its advantage due to its efficiency; however,
it also had disadvantages due to its low return rates. According to the original IRB
protocol, in case of low return rates, the principal investigator would utilize telephone
survey to contact those who received the recruitment letter but failed to return them
without any notice. Given the unexpectedly low return rate, the principal investigator
decided to change the reminder procedure from calling potential participants to the
second-mailing with reminder letters. Therefore, the principal investigator filed the
request for the modification of IRB protocol. When the approval of modification (see
Appendix L) was received at the end of January of 2013, the principal investigator mailed
additional recruitment letters as well as reminder letters in English and Korean (see
Appendix M and N) to 150 Korean residences in Cincinnati, Radcliff, and their
surrounding cities.

In case participants cannot speak and read English very well, the recruitment
letter, the questionnaire, and the reminder letter were translated into Korean. The Korean
version of questionnaire was reassessed for its measurement equivalence during the back-
translation process (Brislin, 1970). Despite the Korean version of questionnaire, for the
elders who might have problems in reading or writing, or for those to whom the concept
of survey was new, the principal investigator indicated in the recruitment letter that she
would be available to assist them individually with the self-administered survey
questionnaire. Even if they chose a survey by phone or in person, they were told that
confidentiality of their data would be maintained. Although no potential risks could be
identified in advance, all survey participants were informed that their participation was
voluntary, and they could choose to withdraw consent and discontinue participation at any time without any harm or prejudice. The survey questions had no more risk of harm than they would experience in everyday life. However, they might feel upset or stressful when asked to recall their past stressful life events and/or stressful acculturative experiences. Thus, if they felt uncomfortable or upset by the study questions, they were free to withdraw consent and discontinue at any time without any harm or prejudice. If the questions made them feel upset or uncomfortable, they could contact the principal investigator by phone or in person if they needed help with these feelings. They were informed that the principal investigator is a master’s level clinical social worker that can listen to and share their feelings with them while keeping their information confidential.

Data Analysis

The survey data were coded and entered into SPSS (Statistical Package for the Social Science) 21.0 and AMOS (Analysis of Moment Structures) 20.0 for statistical analyses. Data were screened for missing values and outliers. Of 111 participants, three cases were eliminated due to more than 15% missing values on acculturative stress and social support variables. Missing values of the remaining cases were less than 15%, so missing values were replaced with the mean score of available cases for variables except social support variable. Negatively or positively skewed variables were transformed to reduce the impact of outliers. Despite data transformation, some variables did not have univariate normality; therefore, bootstrapping based on 1000 bootstrap samples was utilized for bivariate analyses in SPSS and for path analyses in AMOS in order to make confidence intervals and significance test more robust. Bootstrapping was not utilized for
multiple regression analyses in SPSS because bootstrapping was not allowed for a stepwise multiple regression method.

First, a descriptive analysis was performed on the total sample to produce the characteristics of the sample. Then, a sample of 108 participants was used in bivariate and multivariate analyses. A bivariate analysis was conducted to examine correlations among depression, somatization, the level of acculturation, IADL, stressful life events, acculturative stress, social support, religiosity, and demographic variables. Cronbach’s alpha was used to check the internal reliability of each scale used in the study. Lastly, inferential statistics including multiple regressions, principal components analyses, and path analyses were conducted to test the relationships among multiple variables. SPSS was utilized for conducting multiple regression analyses and a principal components analysis.

Multiple regression analyses were conducted to test the relationship among predictors with acculturative stress or depressive symptoms. A principal components analysis was conducted to examine which dimensions of acculturative stress were perceived as more stressful among the participants. This study had a relatively small sample size, so in order to obtain a reliable equation in multiple regression analyses, the number of predictors entering each multiple regression analysis was given substantial consideration and selected according to the rule of thumb \[ n \geq 50 + 8k \] (the number of predictors) (Mertler & Vannatta, 2005). Given the sample size of 108, the number of predictors in multiple regression analysis was limited to 7 or smaller than 7 and the recommended ratio to the sample size and the number of predictors was achieved by selecting predictors with significant correlations in bivariate analyses.
Two path analyses were conducted with AMOS to examine the direct or indirect effects of personal factors, acculturative stress, social support, and somatization on depression. In each path analysis, a model was proposed with variables and the proposed model was revised by examining model fits with individual path coefficients and fit indices. All regression and revised path models were tested and reported with standardized regression coefficients at the significance level of .05. Four path diagrams were derived from the integrated conceptual model of the study and used to show the proposed and the revised path models. Figure 3.1 for the integrated conceptual model of the study is presented at the end of this chapter and Figure 4.1 through 4.4 for the proposed and the revised path models are presented in the next chapter.

**Research Questions**

This study examined the following main research question: How do Korean immigrant elders experience their acculturative stress when they reside in areas without Korean ethnic enclaves? Five specific research questions were examined in the study:

1) What variables are strongly associated with acculturative stress of Korean immigrant elders residing in areas without Korean ethnic enclaves?

2) What variables are strongly associated with depressive symptoms of Korean immigrant elders residing in areas without Korean ethnic enclaves?

3) What aspects of acculturative stress have been appraised as most stressful and associated with depressive symptoms among Korean immigrant elders who reside in areas without Korean ethnic enclaves?
4) What are the effects of acculturative stress on the relationship between personal factors (SES, length of stay, living arrangement, the level of acculturation, and stressful life events) and depression?

5) What are the effects of coping resources and somatization on the relationship between Korean immigrant elders’ acculturative stress and their depression?

Summary

Chapter 3 described the research design, sampling, conceptual and operational definitions of study variables, research procedure, data analysis, and research questions. A majority of studies on Korean immigrant elders have focused on the relationship between acculturative stress and depression among Korean immigrant elders residing in metropolitan cities where Korean ethnic enclaves are well established. Due to the small number and proportion of Korean immigrant elders elsewhere, little is known about how Korean immigrant elders residing in non-metropolitan cities had undergone and coped with acculturative stress. Thus, unlike prior studies that were typically conducted on a contextual setting where there are ethnic enclaves, this study used a subgroup of Korean immigrant elders residing in areas without Korean ethnic enclaves in order to explore how elders undergo and cope with their acculturative stress and depressive symptoms.

Most of the prior studies on Korean immigrant elders have used multiple regression analyses to identify the predictors of depression among Korean immigrant elders. Using path analyses, this study probed the acculturative stress, coping, and distress process by focusing on direct and indirect effects of acculturative stress and coping resources on depressive symptoms of Korean immigrant elders residing in areas without any Korean ethnic enclave. While other prior studies used stressful life events as
stress indicators, this study used both acute stressors and chronic strains to capture a more accurate picture of acculturative stress process. Little attention has been paid to the distinction between the level of acculturation and acculturative stress. This study used the additional scales to measure the level of acculturation and acculturative stress, so this study examined the relationship between the level of acculturation and depressive symptoms by clearly evaluating the mediating effect of acculturative stress. Many prior empirical studies have used the geriatric depression scale to measure depression; however, the scale does not include somatic complaints of depression. This study used an additional somatization subscale to examine whether depressive symptoms of Korean immigrant elders were expressed with somatic complaints. The next chapter will present the results of data analysis.
Figure 3.1. Integrated Conceptual Model of the Study
Chapter 4. Results

This chapter presents the results of this study in four sections. The first section deals with descriptive analyses of the sample and all the variables used for this study. The second section presents bivariate analyses that describe correlations among the observed variables. The third section presents Cronbach’s alphas of self-reporting scales used to measure the internal consistency. The last section presents findings for five research questions utilizing multivariate analyses.

Descriptive Analyses

This section describes characteristics of the sample and the variables. The description of the sample is followed by univariate analyses of the observed variables in the four sub-sections: socio-demographics of the sample, description of stressor variables, description of coping resource variables, and description of depression and somatization variables.

Sample.

The survey was administered in 20 cities located in Southwestern Ohio, North Central Region of Kentucky, and Southern Indiana between October 17th of 2012 and March 21st of 2013. Table 4.1 presents the response rates for each state. Recruitment letters were sent to 472 Korean residents and a total of 111 Korean residents completed consent forms and surveys. Self-administered mail surveys, phone surveys, and in-person interviews were utilized as the primary data collection methods. Of the three methods, the mail survey was the predominant method of data collection: 106 mail surveys, 2 in-person surveys, and 3 phone surveys were completed. When initial recruitment letters/consent forms were mailed to those initially selected 242 Korean residents in Cincinnati and its surrounding cities on October 17th of 2012, only 21 surveys
were initially returned, yielding a 9% completion rate. The initial low response rates reflected Koreans’ tendency of not responding to mail surveys from unknown persons (Shin, 1993).

With the use of snowball sampling, an additional 230 Korean residents were located and sent recruitment letters/consent forms by mail between November of 2012 and January of 2013. With a combination of convenience and snowball sampling, by the end of January of 2013, in total, 84 surveys were returned, yielding an 18% completion rate. Due to the low return rates, the principal investigator decided to re-mail the recruitment letters with a reminder to those who did not respond to the initial mailing rather than to follow the original IRB protocol of calling and reminding residents of the survey by phone. The principal investigator applied for and received an approval for the IRB modification request at the end of January of 2013. The second mailing list was created; however, 90 out of 472 residents were deleted from the second mailing list because 90 recruitment letters were returned to the principal investigator in the initial mailing due to the following reasons: Death, address change, undeliverable address, non-Korean, refusal, or younger age under 60. In the second mailing, recruitment letters with a reminder in English and Korean were sent to each Korean residence due to the limited expense of the study. Thus, the recruitment letters with a reminder were sent to approximately 150 Korean residences mainly located in Cincinnati, Radcliff, and their surrounding cities. After the reminder letters were sent, 27 more surveys were returned. A total of 111 out of 382 surveys were returned, yielding a 29% completion rate.
Table 4.1

*Response numbers and rates (N=111)*

<table>
<thead>
<tr>
<th>Location</th>
<th># Cities</th>
<th># Survey letters mailed</th>
<th># Surveys returned</th>
<th>% Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southwestern Ohio North Central Region of Kentucky</td>
<td>11</td>
<td>251</td>
<td>73</td>
<td>29.08</td>
</tr>
<tr>
<td>Southern Indiana</td>
<td>2</td>
<td>12</td>
<td>2</td>
<td>16.67</td>
</tr>
</tbody>
</table>

**Socio-demographics of the sample.**

**Demographics of the sample.** Table 4.2 presents the socio-demographic characteristics of the study sample. The age of the participants ranged from 60 to 88 years with a mean age of 69.73 (SD=7.12). The majority of the sample (86.5%) consisted of Korean immigrant elders whose surnames were Korean. The remaining 13.5% were Korean immigrant females with American surnames due to their marriage. Females (59.5%) outnumbered males (40.5%). The majority of the sample (91%) was married and the remaining 9% reported being single, widowed, divorced, or separated.

**Living arrangements.** As shown in Table 4.2, the majority of the sample (72.1%) lived with their spouses only, while 17.1% lived with spouses and children. Thus, 89.2% lived with their spouses with or without their children. Only 6.3% reported living alone, and this figure was lower than previous studies in Florida (Jang et al., 2005b; Jang & Chiriboga, 2010) that reported 12 to 13% of Korean American elders aged 60 and older living alone. This study sample’s lower percentage of living alone was not unexpected considering that 91% of Korean immigrant elders reported being married and that the sample was aged 60 and older. However, even when the principal investigator analyzed 75 Korean elders aged 65 and older in the sample, 9.1% reported living alone, which was
still three times lower (29.3%) than Administration on Aging (AOA)’s (2010) report of all non-institutionalized elders aged 65 and older living alone in the U. S.

**Socio-economic status.** Table 4.2 presents characteristics of education, employment, individual annual income, and socio-economic status. About 70% of the sample completed college or higher education, which was unexpectedly higher than AOA’s (2010) reports that 32% of Asian American elders aged 65 and older and 22.5% of all American elders aged 65 and older had a bachelor’s degree or higher. About 39% of the sample reported being employed, while 61.3% reported being unemployed. About 27% of the sample reported their individual annual income of less than $10,000, which was higher than the 19.6% of all Americans aged 65 and older in 2010 (AOA). However, it was also noted that 46.8% of the sample reported $20,000 or more, and more than half of them (27.9%) reported their annual income more than $40,000.

In this study socioeconomic status (SES) was a composite variable that combined employment, education, and individual annual income. Employment, education, and individual annual income were all categorical variables. Employment and education consisted of two attributes each, and individual annual income had four categories. Since these three variables have a different range of values, creating a composite variable of SES by simply adding up scores of each variable would not measure the concept adequately. Thus, each variable was weighted by using the weight formula (% stratum in population / % stratum in sample). Scores from the three weighted variables were summated and used as a measurement for SES in this study. SES scores ranged from 0 to 4.67 with a mean of 2.42 (SD=1.56).
**Length of stay in the U.S.** About 93% of the sample has lived in the U.S. for more than 21 years. None of the sample reported staying in the U.S. less than 10 years. This sample appeared to have a longer average length of stay compared to Jang and Chiriboga’s (2010) sample that ranged from 2 months to 51 years with a mean of 25 years.

**Level of acculturation.** This study used the Suinn-Lew Asian Self-identity Acculturation scale, retaining 18 of 21 items to measure the level of acculturation. Participants on average reported language preference, interpersonal association, self-ethnic identity, and cultural values and attitudes along these lines: *Mostly Korean* (score 2) or *About Equally Korean and American (English)* (score 3) rather than *Mostly American* (score 4) or *Exclusively American (English)* (score 5). As shown in Table 4.2, the total score of the sample ranged from 1.11 to 3.50 with a mean of 2.27 (summed scale score/number of scale items) ($SD = .48$). Considering that a final score of 1 may indicate low acculturation and high Korean identification, a score of 3 indicating moderate acculturation and bicultural identification, and 5 indicating high acculturation and high Western identification, the score range and mean suggest a low to moderate level of acculturation.
Table 4.2

*Socio-demographic characteristics of the sample (N=111).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>111</td>
<td></td>
<td>69.73</td>
<td>7.12</td>
<td>60-88</td>
<td>.56</td>
<td>-.55</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>66</td>
<td>59.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>45</td>
<td>40.5</td>
<td></td>
<td></td>
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<tr>
<td>Last Name</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korean last name</td>
<td>96</td>
<td>86.5</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>American last name</td>
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<td>13.5</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Marital status</td>
<td></td>
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<tr>
<td>Married</td>
<td>101</td>
<td>91.0</td>
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<td></td>
</tr>
<tr>
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<td>9.0</td>
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<tr>
<td>Living arrangement</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Living alone</td>
<td>7</td>
<td>6.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living with spouse only</td>
<td>80</td>
<td>72.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living with spouse &amp; children</td>
<td>19</td>
<td>17.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living with children only</td>
<td>3</td>
<td>2.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living with others</td>
<td>2</td>
<td>1.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socio-economic status</td>
<td>111</td>
<td></td>
<td>2.42</td>
<td>1.56</td>
<td>0-4.67</td>
<td>-.01</td>
<td>-1.25</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>43</td>
<td>38.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>68</td>
<td>61.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>33</td>
<td>29.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College or more</td>
<td>78</td>
<td>70.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual annual income</td>
<td>107</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Under $10,000</td>
<td>30</td>
<td>27.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$10,000-$19,999</td>
<td>25</td>
<td>22.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$20,000-$39,999</td>
<td>21</td>
<td>18.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$40,000 or more</td>
<td>31</td>
<td>27.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of stay in the United States</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 5 years</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between 5 &amp; 10 years</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between 11 &amp; 20 years</td>
<td>8</td>
<td>7.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 21 years</td>
<td>103</td>
<td>92.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of acculturation</td>
<td>111</td>
<td></td>
<td>2.27</td>
<td>.48</td>
<td>1.11-</td>
<td>-.17</td>
<td>-.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Description of stressor variables.**

**Instrumental activities of daily living.** Instrumental activities of daily living (IADL) has been examined as a current acculturative stressor associated with depressive symptoms (Mills & Henretta, 2001; Mui, 1996, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008; Treas & Mazumdar, 2002). This study used the Lawton Instrumental Activities of Daily Living scale to measure the participants’ levels of cognitive and physical function in the following eight domains: telephoning, shopping, food preparation, housekeeping, laundering, mode of transportation, medication administration, and finance management. As shown in Table 4.3, the total score of the sample ranged from 3 to 8 with a mean of 7.27 ($SD=1.02$). More than half (55%) of the participants reported independence in all eight domains and only 5.4% reported lacking independent living skills in three to five domains. Thus, the sample was non-institutionalized and cognitively and physically able to participate in the study.

Since three domains such as food preparation, housekeeping, and laundering have been excluded for men in another study, men’s score of 5 in the other five domains could be regarded as high functioning (Graf, 2013). The participants in this study were Korean elders who were born in Korea in which distinct divisions of labor in gender were deeply embedded as traditional cultural norms. Taking the traditional cultural norms into consideration, male participants with spouses or adult children who did not indicate independence in the three domains could be still considered independent. Thus, male participants were re-scored in the three domains and the data were recoded into a new IADL$^1$ variable. IADL$^1$ in Table 4.3 shows that the number and proportion of those with scores between 6 and 8 sharply increased. When male participants were re-scored in all three domains (food preparation, housekeeping, laundering), 74.8% of all participants in
IADL\(^1\) reported being independent in all eight domains, which was one and a half times greater than the percentage in physical health. Despite the differences between the IADL and the new IADL\(^1\) variable, the principal investigator used IADL variable, not IADL\(^1\) since it has been recommended that all domains should be assessed for both genders (Lawton, Moss, Fulcomer, & Kleban, 2003). IADL was negatively skewed with outliers, so an inverse transformation was applied on the IADL variable. The transformed data were used in inferential analyses.

**Stressful life events.** Stressful life events were examined as one of acculturative stressors in the study. The Life Events Questionnaire scale measured stressful life events occurring over the past 6 months. The scale had 12 items with no cut off point, with higher scores indicating greater likelihood that the identified stressful life events had an impact on participants. As shown in Table 4.3, the scale scores ranged from 0 to 4 with a mean of .76 (SD=.96). More than half of participants (51.4 %) reported having no stressful life events happening to them over the past 6 months, while the remaining (48.6%) reported having 1 to 4 stressful life events. Of all 84 stressful life events reported, 35% were death of family, close friend or relative, 33% were serious illness or injury, 13% were loss of important relationships, and 10% were unemployment and major financial loss. Loss of valuables (7%) and legal problems (2%) were reported relatively little compared to other events. No participant reported any separation due to marital difficulties. The data suggested that age-related life events such as death and illness were reported more prevalently than other relationship or finance related events. The scale was positively skewed, so the data of stressful life events were transformed with a log and used in inferential analyses.
**Acculturative Stress.** The Acculturative Stress Index was used to measure chronic life strains associated with acculturation, especially in seven areas: language difficulty, homesickness, social isolation, social discrimination, sense of marginality, opportunity for occupational and financial mobility, and family problems. The scale consisted of 31 items. Each item is rated on a 4-point scale ranging from 1 (*never*) to 4 (*very often*). Fifteen missing values were replaced with the mean of each item. As shown in Table 4.3, a total score of 31 items ranged from 9 to 73 with a mean of 39.74 (*SD*=15.51). The response of *not applicable* (5) was treated as missing in the study. Two of the participants selected the response (*not applicable*) in all 31 items; therefore, they were eliminated from the data for inferential statistics. On average, 30% of participants selected the response 5 for each item, ranging from the lowest 2% in item 31 (difficult to understand TV/Radio due to English) to the highest 53% in item 25 (worse relationship with adult children and their spouses after immigration). It was noted that items reflecting language difficulty (e.g., “I experience difficulties when I try to understand the TV/radio,” or “I experience difficulties when I read a newspaper/magazine”) had the fewer responses of *not applicable*, while those reflecting family problems (e.g., “I feel that living in America is stressful because I feel that the relationship between myself and adult children and their spouses has gotten worse since I have come to the U.S.”) had the most responses of *not applicable*. The high percentage of *not applicable* responses decreased the total scores of 31 items since they were treated as missing, which affected the mean. The mean (39.74) in this study was lower than those of other study findings: Noh and Avison’s (1996) study had a mean of 65.96 with
adult Korean immigrants aged 18 and over in Canada and Lee’s (2003) study had a mean of 55.18 with Korean immigrants aged 65 and older in Chicago.

Table 4.3

*IADL, stressful life events, and acculturative stress (N=111).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>IADL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower than 6</td>
<td>8</td>
<td>7.2</td>
<td></td>
<td></td>
<td>1-3</td>
<td>-1.62*</td>
<td>2.78</td>
</tr>
<tr>
<td>Between 6 and 7</td>
<td>42</td>
<td>37.8</td>
<td></td>
<td></td>
<td>4-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 (highest function)</td>
<td>61</td>
<td>55.0</td>
<td></td>
<td></td>
<td>8-12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|       |    |     |    |    |       |          |          |
| IADL−1 | 111|    |    |    |       |          |          |
| Lower than 6           | 3  | 2.7 |    |    | 1-3   | -2.60    | 7.89     |
| Between 6 and 7        | 25 | 22.5|    |    | 4-7   |          |          |
| 8 (highest function)   | 83 | 74.8|    |    | 8-12  |          |          |

|       |    |     |    |    |       |          |          |
| Stressful life events  |    |     |    |    |       |          |          |
| None                  | 57 | 51.4|    |    | 0-4   | 1.31*    | 1.35     |
| Between 1 and 4 life  | 54 | 48.6|    |    |       |          |          |
| events                |    |     |    |    |       |          |          |

Acculturative Stress  | 109|     | 39.74 | 15.51 | 9-73 | .06 | -.74 |

* represents data requiring transformation.

**Description of coping resource variables.**

**Religiosity.** Table 4.4 presents the frequency of church attendance, the level of importance of religion, and religiosity of participants. About three quarters of participants (73.9%) attended church once a week or more than once a week, whereas 1.8% of participants never attended church. Similar to the high rate of church attendance, 96.4% of participants responded that religion was important or very important in their life. More than half of participants (57.7%) answered that religion was very important. Since the two variables had a different range of values, they were weighted and summed to measure religiosity. The total score of religiosity ranged from .75 to 6.79 with a mean of 5.61 (SD=1.51). The high average score of religiosity among the participants of this
study is congruent with a previous study showing that many Korean immigrants in the U. S. have been affiliated with or involved in churches during their acculturation period (Park & Bernstein, 2008). Religiosity was negatively skewed, so an inverse transformation was applied and the transformed data was used in inferential statistics.

**Social support.** The 15-item Provision of Social Relations scale was utilized to measure social support. Each 5-point rated item asked participants about their perceptions of the level of support from family and friends. As shown in Table 4.4, the total score of social support ranged from 30 to 74 with a mean of 59.01 (SD=9.98) and higher scores reflected greater social support. The median of the total score was 62.00, which was higher than the average score. The total score of perceived family support ranged from 13 to 30 with a mean of 25.17 (SD=3.95), while that of perceived friend support ranged from 11 to 45 with a mean of 33.84 (SD=7.17). The median (26.00) of participants’ perceived family support was closer to the maximum scores (30.00) than the median (34.00) of the perceived friend support to the maximum scores (45.00).

No data on actual norms among Korean immigrant elders were available. However, there was a two-wave panel study by Noh and Avison (1996) who used the PSR scale to measure both ethnic social support and general social support perceived by Korean immigrants aged 18 and over in Canada. Noh and Avison found that the means of ethnic social support from Korean immigrants ranged from 55.5 to 57.0, which was a little lower than the mean (59.01) of social support in this study. On the other hand, Noh and Avison found that the means of general social support from non-Korean community residents ranged from 34.5 to 40.5, which were much lower than the mean (59.01) of social support in this study.
Eleven responses in 15-item variable were missing and one case had five missing values. That case was eliminated in the inferential analyses. The remaining missing values in six items were not replaced with the mean score since the paired samples test with a sample of 108 participants with three cases eliminated showed that the mean of the variable with replacing missing values was statistically different from that of the variable without replacing missing values at \( p = .03 \). The social support variable was slightly negatively skewed; therefore, a square root transformation was applied and used in inferential analyses. The data transformation turned the negatively skewed variable into a positively skewed one; it will be noted in the inferential analyses that interpretation of the results of analyses will be reversed.

Table 4.4

*Religiosity and social support scales (\( N=111 \)).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>( N )</th>
<th>%</th>
<th>( M )</th>
<th>( SD )</th>
<th>Range</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religiosity</td>
<td>111</td>
<td>5.61</td>
<td>1.51</td>
<td>.75-6.79</td>
<td>-1.46*</td>
<td>1.72</td>
<td></td>
</tr>
<tr>
<td># of church attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>2</td>
<td>1.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once or twice a year</td>
<td>9</td>
<td>8.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once in 2 or 3 months</td>
<td>2</td>
<td>1.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a month</td>
<td>3</td>
<td>2.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 or 3 times a month</td>
<td>13</td>
<td>11.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week or more</td>
<td>82</td>
<td>73.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Importance of religion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not important</td>
<td>4</td>
<td>3.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Important</td>
<td>43</td>
<td>38.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very important</td>
<td>64</td>
<td>57.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Support</td>
<td>111</td>
<td>59.01</td>
<td>9.98</td>
<td>30-74</td>
<td>-1.01*</td>
<td>.75</td>
<td></td>
</tr>
<tr>
<td>Family support</td>
<td></td>
<td>25.17</td>
<td>3.95</td>
<td>13-30</td>
<td>-1.14</td>
<td>1.27</td>
<td></td>
</tr>
<tr>
<td>Friend support</td>
<td></td>
<td>33.84</td>
<td>7.17</td>
<td>11-45</td>
<td>-.76</td>
<td>.57</td>
<td></td>
</tr>
</tbody>
</table>

* represents data requiring transformation.
Description of depression and somatization variables.

Depression. The 15-item Geriatric Depression Scale-Short Form was used to measure depressive symptoms of Korean immigrant elders in this study. With a yes/no response format, the scale scores ranged from 0 to 14 with a mean of 3.11 (SD=3.09) and scores higher than the cutoff score of 5 indicated higher levels of depressive symptoms. The mean of the scale in this study was slightly lower than found in Korean-American elders aged 60 in Florida: Jang et al. (2005a) had a mean score of 4.22 (SD=3.29) and Jang and Chiriboga (2010) had a mean score of 3.73 (SD=3.24).

Table 4.5 shows the levels of depression that were diagnostically associated with the GDS-SF scores where 0 to 5 indicated no depression, 6 to 9, mild depression, and 10-15, moderate to severe depression. More than 79% of all participants reported no symptoms of depression, while the remaining 20.7% reported higher than the cut-off score of 5, suggestive of depressive symptoms. Of those 23 participants who scored higher than 5, 18 participants scored between 6 and 9, indicating mild depression, while 5 participants scored exceeding 10 or higher, indicating moderate to severe depression. When the cut-off score (>10) of the GDS was used, studies have shown that the prevalence of depressive symptoms among the community-residing Asian-American or Korean immigrant elderly have varied from 18 % to as high as 44% (Mui, 2000; Mui & Kang, 2006; Shibusawa & Mui, 2002). Twenty-one percent of the sample scored higher than the cut-off score of 5, which was consistent with the Jang et al.’s (2005a) study that 24% of Korean American elders aged 60 or older scored higher than the cut-off score. Missing values of the scale were replaced with the mean of each scale item. The scale was positively skewed, so a square root transformation was applied, and the transformed data were used in inferential analyses.
**Somatization.** As shown in Table 4.5, somatization scores ranged from 0 to 2 with a mean of .40 ($SD= .40$). Scores of 0 or close to 0 indicated the participants’ reporting no or rare severity of experiencing somatic symptoms; those of 1 or close to 1 indicate a mild severity of experiencing somatic symptoms; and those of 2 or close to 2 indicate a moderate severity of somatic symptoms during the past week. The distribution of the scores was severely positively skewed with a median of .33. More than 75% of the participants scored .50, which showed that the study sample reported lower levels of somatization. The mean score in this study was lower than those found in other studies: Ahn’s (2005) Korean immigrants aged 55 or older in the New York metropolitan area had a mean score of .81 ($SD= .66$) and Noh and Avison’s (1992) Korean immigrants aged 18 or older in Toronto had a mean score of .51. Table 4.5 shows four most frequently reported somatic symptoms by the study participants: Pains in heart or chest; Soreness of muscles; Weakness in part of body; Heavy feelings in arms and legs. Since positive skewness of somatization was severe, an inverse transformation was applied and the transformed data were used. The data transformation turned a positively skewed variable into a negatively skewed one; it will be noted in the inferential analyses that interpretation of the results of analyses will be reversed.
In summary, a total of 111 Korean immigrant elders participated in this structured survey. Tables from 4.2 to 4.5 present socio-demographic characteristics of the sample. Some of the observed variables (acculturative stress, social support, depression, and somatization) had missing values and the missing values were replaced with the mean score of available cases for the variable except for social support. The scores of the demographic variables in Table 4.2 were normally distributed with their values for skewness and kurtosis less than ±1.0. However, the values for skewness and kurtosis of the remaining variables in Table 4.3, 4.4, and 4.5 were more than ±1.0 except for acculturative stress. Thus, in order to maintain normalcy, positively skewed data were transformed with a square root or a logarithm transformation, whereas negatively skewed data were reflected with a square root, a logarithm, or an inverse transformation, depending on their severity of skewness. Such data transformation resolved the problem with outliers in some of the variables. However, for those variables with transformed data that still did not meet the assumption of normality, the principal investigator used the
bootstrap technique available in SPSS version 21 for bivariate analyses in order to make confidence intervals and significance tests more robust.

**Bivariate Analyses**

This section describes findings from conducting a series of Pearson correlations among the observed variables. Prior to examining the research questions, bivariate analyses were conducted to assess intercorrelations among the observed variables, to screen for strongly correlated variables appropriate for multivariate analyses, and to test for collinearity.

**Intercorrelations among depression and other study variables.** Table 4.6 presents correlations among depression, somatization, social support, religiosity, acculturative stress, IADL, stressful life events, level of acculturation and socio-demographic variables. Pearson correlation coefficients shown in Table 4.6 range from an absolute value of .01 to .45, which shows low to moderate levels of intercorrelations. Most significant correlations were found to be moderate, ranging from an absolute value of .21 to .45.

Depression was positively associated with acculturative stress ($r = .45, p < .001$) and somatization ($r = .40, p < .001$), but negatively associated with social support ($r = -.42, p < .001$), SES ($r = -.30, p = .001$), and the level of acculturation ($r = -.27, p < .01$). Acculturative stress was the strongest correlate of depression, followed by social support and somatization. Religiosity had small insignificant correlations with depression and other variables, but it had a small significant correlation with IADL ($r = .22, p < .05$). Acculturative stress was negatively associated with social support ($r = -.34, p < .001$), SES ($r = -.32, p = .001$), and the level of acculturation ($r = -.29, p < .01$).
Table 4.6 also presents correlation coefficients of three stressors (IADL, stressful life events, and acculturative stress). Stressful life events were significantly correlated with IADL ($r = -.21, p < .05$) and acculturative stress ($r = .23, p < .05$). However, there was no significant relationship between IADL and acculturative stress ($r = -.16, p = .09$). Of the three stressors, acculturative stress was the only significant correlate of depression.
Table 4.6

Correlations among the variables (N=108)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Somatization</td>
<td>.40****</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Social support</td>
<td>-.42****</td>
<td>-.10</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Religiosity</td>
<td>-.10</td>
<td>.01</td>
<td>.16</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Acculturative stress</td>
<td>.45****</td>
<td>.31***</td>
<td>-.34****</td>
<td>-.06</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Stressful life events</td>
<td>.01</td>
<td>.07</td>
<td>-.07</td>
<td>.08</td>
<td>.23*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. IADL</td>
<td>-.12</td>
<td>-.10</td>
<td>.12</td>
<td>.22*</td>
<td>-.16</td>
<td>-.21*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Level of acculturation</td>
<td>-.27**</td>
<td>-.27**</td>
<td>.17</td>
<td>-.05</td>
<td>-.29**</td>
<td>-.02</td>
<td>.32***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. SES</td>
<td>-.30***</td>
<td>-.14</td>
<td>.26**</td>
<td>-.12</td>
<td>-.32***</td>
<td>-.03</td>
<td>-.01</td>
<td>.29**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Age</td>
<td>.09</td>
<td>.04</td>
<td>.03</td>
<td>-.10</td>
<td>-.07</td>
<td>-.06</td>
<td>-.25**</td>
<td>.07</td>
<td>-.21*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11. Length of stay</td>
<td>.11</td>
<td>.06</td>
<td>-.04</td>
<td>.05</td>
<td>-.16</td>
<td>-.12</td>
<td>.21*</td>
<td>.23*</td>
<td>-.15</td>
<td>.28**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Numbers in cells represented Pearson correlation coefficients and 2-tailed probabilities.
* p < .05. ** p < .01. *** p = .001. **** p < .001.
Reliability of Scales  This study used seven published self-report scales to measure the study variables. Table 4.7 shows the Cronbach’s alpha coefficients obtained in this study for those seven scales. Four scales had alphas above .80, which were considered good, and one scale had an alpha above .90, which was considered excellent (Rubin & Babbie, 2008). Cronbach’s alpha of the SL-ASIA in this study was .84, which was lower than .91 reported in Suinn et al.’s (1992) study on Asian-American university students, but higher than the .76 reported in Park and Rubin’s (2012) study on Korean immigrants in California and Texas. The ASI in this study had an internal consistency of .91, which was the same as that ($\alpha = .91$) reported by Noh and Avison (1996). The PSR scale of the original study (Turner et al., 1983) had alpha coefficients ranging from .75 to .87 and that the .85 in this study fell within that range. The GDS-SF scale in this study had a Cronbach’s alpha of .83, which was higher than the .79 reported by Jang et al. (2005a) and the .81 reported by Jang and Chiriboga (2010). The SCL-90 scale in this study had an alpha coefficient of .81 for the somatization dimension of Korean immigrant elders, which was lower than .86 for somatization dimension of Americans and .88 for that of Korean immigrants reported by Noh and Avison (1992). This study, however, obtained alphas below .70 from the two scales, the Lawton IADL and the LEQ, which were considered unacceptable. The lower alphas in these two scales might be explained, given that data on LEQ scale’s internal consistency were not available (Fischer & Corcoran, 2007) and that few studies have tested the Lawton IADL scale psychometric properties (Graf, 2013).
Table 4.7

*Cronbach’s alphas used for measuring the reliability of the scales*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Cronbach’s alpha</th>
<th>Number of items used in this study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Other Studies</td>
<td>This Study</td>
</tr>
<tr>
<td>SL-ASIA (the level of acculturation)</td>
<td>.76-.91</td>
<td>.84</td>
</tr>
<tr>
<td>Lawton IADL (physical health)</td>
<td>.85</td>
<td>.64</td>
</tr>
<tr>
<td>LEQ (stressful life events)</td>
<td>--</td>
<td>.30</td>
</tr>
<tr>
<td>ASI (acculturative stress)</td>
<td>.77-.91</td>
<td>.91</td>
</tr>
<tr>
<td>PSR (social support)</td>
<td>.75-.87</td>
<td>.85</td>
</tr>
<tr>
<td>GDS-SF (Depression)</td>
<td>.77-.89</td>
<td>.83</td>
</tr>
<tr>
<td>SCL-90 (Somatization)</td>
<td>.86-.88</td>
<td>.81</td>
</tr>
</tbody>
</table>

*Note.* Data on LEQ scale’s internal consistency were not available (Fischer & Corcoran, 2007).

**Research Questions**

This subsection describes the results of multivariate analyses. Of 111 participants, 108 participants were used in multivariate analyses; three cases were eliminated due to their missing values. Multiple regression analyses were conducted to examine research questions 1 and 2. Principal components analyses and multiple regression analyses were conducted to examine research question 3. Path analyses were conducted to examine research questions 4 and 5.

**Research question 1: What variables are strongly associated with acculturative stress of Korean immigrant elders residing in areas without Korean ethnic enclaves?** A stepwise multiple regression analysis was used to determine which variables (living arrangement, length of stay, SES, IADL, stressful life events, the level of acculturation) were predictors of acculturative stress. Age, gender, and marital status variables were not entered into the analysis since they had very weak correlations with acculturative stress in bivariate analyses. Length of stay was dummy coded as 0 for
between 11 and 20 years and 1 for more than 21 years. Length of stay between 11 and 20 years was a reference category. Living arrangement was also dummy-coded into three variables: Living alone, living with spouse only, and living with others (spouse and children, children only, and/or others). Bivariate analyses revealed that the living with spouse only variable was strongly correlated with living with others (spouse and children, children only, and/or others), $r = .84$ at $p < .001$. Thus, the living with spouse only variable was excluded from the analysis and living with others and living alone (a reference category) were included in the analysis. Multicollinearity was not a problem with tolerance values greater than .2 and VIF values greater than 1. The residual plots (normal P-P plot and scatterplot) were generated and the assumptions of normality, linearity, and homoscedasticity were met.

Table 4.8 presents the summary of the stepwise multiple regression model predicting acculturative stress among Korean immigrant elders. It was noted that SES, the level of acculturation, and stressful life events with significant correlations with acculturative stress in bivariate analyses were also significant predictors of acculturative stress in the multiple regression model ($F(3, 104) = 8.32, p < .001$): SES ($\beta = -.25, p < .01$), the level of acculturation ($\beta = -.22, p < .05$), and stressful life events ($\beta = .22, p < .05$). SES was the strongest predictor of acculturative stress, whereas both the level of acculturation and stressful life events had less impact than SES. SES accounted for 10.2% of the variance when entered alone in the equation. When stressful life events were entered as the second step, the model accounted for 15% of the variance in acculturative stress. The level of acculturation was entered as the last step and the model accounted for 19.3% of the variance in acculturative stress. It appeared that stressful life
events and the level of acculturation accounted for a further 5% and 4% of the total variance in acculturative stress respectively. Living arrangement, length of stay, and IADL variables were not found to be significant predictors of acculturative stress.

Table 4.8

*Summary of the multiple regression model predicting acculturative stress among Korean immigrant elders (N=108)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>59.38</td>
<td>7.04</td>
<td></td>
</tr>
<tr>
<td>SES</td>
<td>-2.51</td>
<td>0.92</td>
<td>-.25*</td>
</tr>
<tr>
<td>The level of acculturation</td>
<td>-7.28</td>
<td>3.09</td>
<td>-.22*</td>
</tr>
<tr>
<td>Stressful life events</td>
<td>15.79</td>
<td>6.43</td>
<td>.22*</td>
</tr>
</tbody>
</table>

$R^2 = .19. \Delta R^2 = .17.$

* $p < .05. ** p < .01.$

**Research question 2: What variables are strongly associated with depressive symptoms of Korean immigrant elders residing in areas without Korean ethnic enclaves?**

A stepwise multiple regression analysis was used to determine which variables (SES, length of stay, stressful life events, the level of acculturation, acculturative stress, social support, and somatization) were predictors of depression. Socio-demographic variables (age, gender, marital status, and living arrangement) and IADL were not entered into the analysis since they had no significant correlations with depression in bivariate analyses. Multicollinearity was not a concern with tolerance values greater than .2 and VIF values greater than 1. The residual plots (normal P-P plot
and scatterplot) were generated and normality, linearity, and homoscedasticity were assumed.

Table 4.9 presents the summary of the stepwise multiple regression model predicting depression among Korean immigrant elders. In bivariate analyses, depression had significant correlations with acculturative stress \( (r = .45, p < .001) \), social support \( (r = -.42, p < .001) \), somatization \( (r = .40, p < .001) \), the level of acculturation \( (r = -.27, p < .01) \), and SES \( (r = -.30, p = .001) \). However, the level of acculturation and SES were not found to be significant predictors of depression in the multiple regression model. Social support, somatization, and acculturative stress were significant in predicting depression in the final model \( (F (3, 104) = 19.78, p < .001) \): Social support \( (\beta = -.31, p < .001) \), somatization \( (\beta = .29, p = .001) \), and acculturative stress \( (\beta = .26, p < .01) \). Acculturative stress accounted for 20.3\% of the variance in depression when entered alone in the equation. When social support was entered, the second model accounted for 28.7\% of the variance in depression. Somatization was entered as the last step and the final model accounted for 36.3\% of the variance in depression. It appeared that social support and somatization accounted for a further 8\% of the total variance in depression respectively. Social support was the strongest predictor of depression, somatization was second, and acculturative stress was third.
Table 4.9

*Summary of the multiple regression model predicting depression among Korean immigrant elders (N=108)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.15</td>
<td>0.49</td>
<td></td>
</tr>
<tr>
<td>Social support</td>
<td>-0.24</td>
<td>0.07</td>
<td>-0.31***</td>
</tr>
<tr>
<td>Somatization</td>
<td>1.59</td>
<td>0.45</td>
<td>0.29**</td>
</tr>
<tr>
<td>Acculturative stress</td>
<td>0.02</td>
<td>0.01</td>
<td>0.26*</td>
</tr>
</tbody>
</table>

$R^2 = .36$, $\Delta R^2 = .35$.  
* $p < .01$.  ** $p = .001$.  *** $p < .001$.  

**Research question 3:** What aspects of acculturative stress have been appraised as more stressful and associated with depressive symptoms among Korean immigrant elders who reside in areas without Korean ethnic enclaves?  

Given the numerous study findings indicating that there was a significant relationship between acculturative stress and depression among Asian immigrants (Han et al., 2007; Kang et al., 2009; Mui, 1998, 2000; Mui & Kang, 2006; Noh & Avison, 1996; Oh et al., 2002; Shibusawa & Mui, 2002; Shin et al., 2007), this question was examined by conducting bivariate analyses, principal components factor analysis, and multiple regression analyses. First, bivariate analyses examined the relationship between three stressors (physical health, stressful life events, and acculturative stress) and depression among Korean immigrant elders. Only acculturative stress had a significant correlation with depression, $r (109) = .45, p < .01$, whereas stressful life events and physical health were not significantly correlated with depression.
Acculturative stress was measured by the 31-item Acculturative Stress Index (ASI) that was developed by Noh and Avison (1996) to identify seven dimensions of chronic strains associated with acculturation: language difficulty, homesickness, social isolation, social discrimination, sense of marginality, opportunity for occupational and financial mobility, and family problems. Using a sample of 108 participants, a principal components factor analysis with varimax rotation was conducted to examine which dimensions of acculturative stress were perceived as more stressful among the participants. The 31-item ASI data were screened for missing values and outliers. The ASI scale had a response of 5 (not applicable) and 30% of participants on average selected the response 5 in each item, ranging from the lowest 2% in item 31 (difficult to understand TV/Radio due to English) to the highest 53% in item 25 (worse relationship with adult children and their spouses after immigration). Due to the small sample size of this study, the response 5 in each item was replaced with the item mean; otherwise, it would greatly limit reliability of factor analysis (Mertler & Vannatta, 2005). Normality among the 31 items was examined and most items had positive skewness and kurtosis as well as a few outliers. Those positively skewed items were transformed with a square root or logarithm. Data transformation eliminated all outliers.

A principal components analysis was conducted and extracted seven components using the scree plot method. Kaiser-Meyer-Olkin (KMO) was .789, which exceeded the minimum level of .6; however, Bartlett’s Test of Sphericity was tested and failed to reject the null hypothesis at $p < .05$, which showed no significant correlations among the 31 items. It was then decided to eliminate four items from the analysis: Item 6 (being mistreated by other Koreans) and item 10 (no adequate social support or social group)
were eliminated because of their low loadings (i.e., < .5) with other components; item 1 (lack of opportunity to visit Korea) and item 2 (living away from family and friends) indicating homesickness were eliminated because they were the last component extracted. Another principal components analysis with varimax rotation was conducted to extract seven components with eigenvalues greater than 1. Bartlett’s Test of Sphericity was still not significant at $p < .05$. A component with three loadings including item 17 (not earn more income in the U. S.), item 18 (disappointing living standards), and item 19 (lack of time or money for vacation) was the last one extracted, so it was decided to eliminate these three items. Using varimax rotation, a third principal components analysis with 24 items was conducted to extract six components with eigenvalues greater than 1. The KMO measure of sampling adequacy was .785 and Bartlett’s Test of Sphericity rejected null hypothesis at $p = .023$. The improved model showed that the statistical test of factorability was robust despite the violation of normality and linearity assumptions. The model with six components accounted for 68.30% of the total variance in acculturative stress. All component loadings were greater than an absolute value of .60 except the item 21 (worrying about children’s future) with an absolute value of .59.

Language Difficulty (Component 1) with eigenvalue = 3.92 accounted for 16.32% of the total variance and included six items with high loadings ranging from .852 to .615 indicating the extent to which participants experienced stressfulness due to language difficulty during the process of acculturation: language difficulty with understanding official documents; reading newspapers/magazines; understanding the TV/radio; shopping; being at work; and talking with children.
Intergenerational Problems (Component 2) with eigenvalue = 3.53 accounted for 14.69% of the variance and included six items with loadings ranging from .826 to .589 reflecting the extent to which participants experienced stressfulness in terms of their family relationship after their immigration to the U. S.: their frequent conflicts with children in the U. S.; their worries about losing cohesion with family members; feeling anxious about not being respected by their children; poor relationships with their children and their children’s spouses; feelings of poor relationships with children in the U. S.; and their worries about the future of their children.

Lack of Opportunity for Occupational Mobility (Component 3) with eigenvalue = 2.59 accounted for 10.79% of the variance and included three items with loadings ranging from .834 to .786 reflecting the extent to which participants experienced stressfulness due to the lack of opportunity for occupational mobility: their job experience and education in Korea not being recognized in the U. S.; and their current job being at or below their experience and qualification.

Social Discrimination (Component 4) with eigenvalue = 2.30 accounted for 9.58% of the variance and included three items with loadings ranging from .864 to .726 reflecting the extent to which participants experienced stressfulness due to social discrimination: Being reminded of minority status by other Americans; being treated as an alien; and being discriminated against.

Sense of Marginality (Component 5) with eigenvalue = 2.09 accounted for 8.73% of the variance and included three items with loadings ranging from .784 to .657 indicating the extent to which participants experienced stressfulness due to sense of
marginality: Feeling helpless to make political decisions; few opportunities to participate in American politics; not understanding educational system here.

Social isolation (Component 6) with eigenvalue = 1.96 accounted for 8.18% of the variance and included three items with loadings ranging from .802 to .636 indicating the extent to which participants experienced stressfulness due to social isolation: Lack of good/close friends; lack of confidants; and their inability to do things that they used to enjoy in Korea.

This study identified all the six areas of chronic strains associated with acculturation among Korean immigrants; however, items indicating homesickness and lack of opportunity for financial mobility found in Noh and Avison (1996) were eliminated to improve the model in the preliminary analysis. In Noh and Avison’s study, items indicating the lack of opportunity for occupational and financial mobility were grouped into one dimension; however, they were grouped into two dimensions in this study. Table 4.10 presents the summary of the principal components analysis.

A reliability analysis was conducted on the six components to examine whether all the items in each component should be retained. Table 4.10 presents Cronbach’s alphas and sample sizes of the components. Due to a high number of responses with 5 (not applicable), the total sample decreased to smaller sample sizes ranging from 40 to 71 per each component. All components had good and acceptable internal consistency except social discrimination having questionable internal consistency at $\alpha = .692$, which might be related to the small sample size and small number of items. All the items in Sense of Marginality and Social Isolation components had good correlation with the other items; however, Language Difficulty, Intergenerational Problems, Lack of Opportunity
for Occupational Mobility, and Social discrimination had an item that would increase alphas higher, if deleted. However, the inter-item correlation of all those items exceeded .30 and their item-total correlations exceeded .50. Since the item-total correlations showed that items correlated with the total scores of the component to a good degree, all the items were retained in the principal component analysis.

The principal components analysis results showed that Korean immigrant elders residing in areas without any Korean ethnic enclave experienced various dimensions of acculturative stress, almost 69% of which was explained by language difficulty, intergenerational problems, lack of opportunity for occupational mobility, social discrimination, sense of marginality, and social isolation. Furthermore, the Korean immigrant elders perceived language difficulty as more stressful than other dimensions of acculturative stress. To further examine which dimensions of acculturative stress were strongly associated with depression among the participants, regression factor scores produced by the principal components analysis in SPSS were used to conduct a stepwise multiple regression analysis. Table 4.10 presents the summary of the standard multiple regression model predicting depression among Korean immigrant elders. The final model indicated that all six components were significant predictors of depression and accounted for 40% of the variance in depression, $F(6, 101) = 11.13, p < .001$. Language Difficulty was the strongest predictor of depression ($\beta = .35, p < .001$), followed by Intergenerational Problems ($\beta = .33, p < .001$), Social Discrimination ($\beta = .27, p = .001$), Lack of Opportunity for Occupational Mobility ($\beta = .20, p < .05$), Social Isolation ($\beta = .18, p < .05$) and Sense of Marginality ($\beta = .16, p < .05$). Despite the fact that all beta values of the six predictors were close in ranges, language difficulty was the strongest
predictor of depression among Korean immigrant elders who resided in areas without any Korean ethnic enclave, which was consistent with Kang et al.’s (2009) finding that limited English proficiency was the strongest predictor of depression among Korean immigrant elders residing in non-ethnic enclaves in Arizona.

Table 4.10

**Summary of principal components analysis of acculturative stress and of the multiple regression model predicting depression (N=108)**

<table>
<thead>
<tr>
<th>Component</th>
<th># of items</th>
<th>% of variance</th>
<th>Reliability (sample size)</th>
<th>B</th>
<th>SE</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Language Difficulty</td>
<td>6</td>
<td>16.32</td>
<td>.883 (70)</td>
<td>.33</td>
<td>.07</td>
<td>.35***</td>
</tr>
<tr>
<td>2. Intergenerational Problems</td>
<td>6</td>
<td>14.69</td>
<td>.759 (44)</td>
<td>.31</td>
<td>.07</td>
<td>.33***</td>
</tr>
<tr>
<td>3. Lack of Opportunity for Occupational Mobility</td>
<td>3</td>
<td>10.79</td>
<td>.828 (40)</td>
<td>.19</td>
<td>.07</td>
<td>.20*</td>
</tr>
<tr>
<td>4. Social Discrimination</td>
<td>3</td>
<td>9.58</td>
<td>.692 (70)</td>
<td>.26</td>
<td>.07</td>
<td>.27**</td>
</tr>
<tr>
<td>5. Sense of Marginality</td>
<td>3</td>
<td>8.73</td>
<td>.763 (47)</td>
<td>.15</td>
<td>.07</td>
<td>.16*</td>
</tr>
<tr>
<td>6. Social Isolation</td>
<td>3</td>
<td>8.18</td>
<td>.763 (71)</td>
<td>.17</td>
<td>.07</td>
<td>.18*</td>
</tr>
</tbody>
</table>

$R^2 = .40, \Delta R^2 = .36.$  
* $p < .05.$  ** $p = .001.$  *** $p < .001.$

**Research questions 4 and 5:** Path analyses were conducted to examine the research questions 4 and 5. Using a sample of 108 participants, a path model was initially proposed to examine each research question and was revised after removing insignificant standardized path coefficients from the proposed model. Each question describes the standardized direct, indirect, and total effects of the revised path model and assesses the model fit of the proposed and revised path models.

**Research question 4:** What are the effects of acculturative stress on the relationship between personal factors (SES, length of stay, living arrangement, the
level of acculturation, and stressful life events) and depression? A path analysis was conducted to examine the effects of acculturative stress on the relationship between personal factors and depression and whether acculturative stress would mediate the effect of personal factors on depression. Personal factors include SES, length of stay, living arrangement, level of acculturation, and stressful life events. Figure 4.1 presents the proposed path model. In the proposed model, SES, length of stay, living arrangement, and stressful life events were exogenous variables, and the level of acculturation, acculturative stress, and depression were endogenous variables. Length of stay was dummy coded as 0 for length of stay between 11 and 20 years and 1 for that of more than 21 years. Length of stay between 11 and 20 years was a reference category in the analysis. Living with others (spouses and children, children only, or others) was dummy coded in this analysis and living alone was the reference category in this analysis. Age, gender, marital status, and IADL variables were not entered into the model due to their lack of significant effects on any of the variables. The residual plots (Normal P-P plot and scatterplot) were generated and the assumptions of normality, linearity, and homoscedasticity were met for the variables. Multicollinearity was not a concern in the model.

The proposed model suggests the following: (1) acculturative stress has a direct effect on depression and mediates the effect of personal factors (SES, the level of acculturation, length of stay, and living with others) on depression; (2) SES, length of stay, living with others, and the level of acculturation have direct and indirect effects on depression; and (3) stressful life events have an indirect effect on depression. A path analysis was conducted to test the proposed model. Two paths coefficients from SES to
depression and from living with others to acculturative stress were both insignificant and minimal in size; therefore, it was decided to remove the two paths from the proposed model only when a chi-square difference test indicated that the null hypothesis of equal fit for both competing models could not be rejected (Schermelleh-Engel, Moosbrugger, & Muller, 2003).

A path analysis was conducted after the path from SES to depression was first removed from the proposed model and a chi-square difference test compared the two models. The difference in the chi-square values of the two models in question was distributed with one difference in the degrees of freedom and checked for its significance using a chi-square table. The result showed that the difference in the chi-square values was insignificant ($\chi^2_{\text{diff}}=1.36$, $df_{\text{diff}}=1$, $p = .24$), which indicated that the two competing models equally fitted the data well and the trimmed model should be favored. A third path analysis was conducted after removing the insignificant path from living with others to acculturative stress from the newly trimmed model without the path from SES to depression. The chi-square difference test result was utilized and it was insignificant ($\chi^2_{\text{diff}}=0.34$, $df_{\text{diff}}=1$, $p = .56$), which indicated that the two competing models equally fitted the data. Thus, the two insignificant paths were removed from the proposed model consecutively and the finally revised model had all significant standardized and unstandardized path coefficients at $p < .05$. Figure 4.2 presents the revised model.
Figure 4.1. Proposed path model of Korean immigrant elders’ acculturative stress and depression.

Figure 4.2. Revised path model of Korean immigrant elders’ acculturative stress and depression. *Note:* Numbers are statistically significant standardized path coefficients ($p < .05$).
Table 4.11 presents the standardized direct, indirect, and total effects of the revised path model. As proposed in the model, acculturative stress had a significant positive direct effect on depression \( (\beta = .43, p \leq .001) \). According to Kline’s (2005) guidelines on the effect size interpretation of the standardized path coefficients, the effect was medium but the largest of all the variables. As proposed, the level of acculturation had direct and indirect effects on depression: The level of acculturation had a medium and significant direct effect on depression \( (\beta = -.27, p \leq .01) \) and it also had a small but significant indirect effect on depression via acculturative stress \( (\beta = -.07, p < .05) \). Accordingly, the total effect of the level of acculturation on depression \( (\beta = -.35, p \leq .01) \) was negative and the second largest of the model. These findings indicate that acculturative stress did not fully but only partially mediated the negative direct effect of the level of acculturation on depression. In other words, higher levels of acculturation were directly associated with lower levels of depression among the participants, but the more acculturated participants also experienced fewer depressive symptoms because their higher levels of acculturation helped them experience less acculturative stress, which in turn lowered depressive symptoms.

In the revised model, length of stay and living with others were also significant factors for depression. Length of stay had a direct effect on depression \( (\beta = .28, p \leq .01) \) and an indirect effect on depression via the level of acculturation and acculturative stress \( (\beta = -.17, p \leq .001) \). The significant positive direct effect of length of stay on depression became an insignificant total effect on depression \( (\beta = .11, p = .14) \) because of its significant negative indirect effect. These findings suggest that the participants who stayed in the U. S. for more than 21 years experienced more depressive symptoms than
those who stayed between 11 and 20 years; however, the statistical difference in experiencing depressive symptoms between those who stayed more than 21 years and those who stayed between 11 and 20 years became insignificant because those with longer stays were more acculturated and experienced less acculturative stress. Therefore, those with longer stays in this country experienced fewer depressive symptoms than those with shorter stays. The total effect of living with others on depression ($\beta = -0.13, p = 0.22$) became insignificant because the significant indirect effect of living with others on depression through the level of acculturation and acculturative stress ($\beta = -0.22, p < 0.05$) explained away the significant direct effect of living with others on depression ($\beta = 0.09, p \leq 0.01$). The findings suggest that the participants living with spouses and children, children only, or others experienced fewer depressive symptoms than those living alone; however, the statistical difference in experiencing depressive symptoms between those living with others and those living alone became insignificant because those living with others were less acculturated and experienced more acculturative stress, and in turn experienced more depressive symptoms than those living alone.

SES was proposed to have direct and indirect effects on depression in the path analysis. The significant bivariate relationship between SES and depression ($r = -0.30, p = 0.001$) became insignificant when the level of acculturation and acculturative stress were controlled for in the path analysis. SES had an insignificant direct effect on depression, but its indirect effect on depression through the level of acculturation and acculturative stress ($\beta = -0.22, p \leq 0.01$) was significant and the third largest of the model. The finding indicates that the level of acculturation and acculturative stress fully mediated the effect
of SES on depression. In other words, those with higher SES were more acculturated and experienced less acculturative stress, so they experienced fewer depressive symptoms.

Stressful life events were proposed to have no direct effect on depression since they had no significant bivariate relationship with depression. However, stressful life events had a significant direct effect on acculturative stress; so, when acculturative stress was controlled for, stressful life events had a small but significant indirect effect on depression ($\beta = .09, p < .05$). The finding indicates that participants experiencing more stressful life events had more acculturative stress, and as a result, experienced more depressive symptoms.

Table 4.11

Standardized direct, indirect, and total effects on depression.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Direct effect</th>
<th>Indirect effect</th>
<th>Total effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acculturative stress</td>
<td>.43***</td>
<td>--</td>
<td>.43***</td>
</tr>
<tr>
<td>The level of acculturation</td>
<td>-.27**</td>
<td>-.07*</td>
<td>-.35**</td>
</tr>
<tr>
<td>SES</td>
<td>--</td>
<td>-.22**</td>
<td>-.22**</td>
</tr>
<tr>
<td>Length of stay</td>
<td>.28**</td>
<td>-.17***</td>
<td>.11</td>
</tr>
<tr>
<td>Living with others</td>
<td>-.22*</td>
<td>.09**</td>
<td>-.13</td>
</tr>
<tr>
<td>Stressful life events</td>
<td>--</td>
<td>.09*</td>
<td>.09*</td>
</tr>
</tbody>
</table>

$R^2 = .31$  
* $p < .05$, ** $p \leq .01$, *** $p \leq .001$.

All standardized and unstandardized path coefficients in the revised model were statistically significant at $p < .05$, and the revised model yielded a chi-square value of 2.28 with 4 degree of freedom and a probability of .69, which indicated that the model adequately fit the observed data. Although the revised model yielded a higher chi-square
value than the proposed model ($\chi^2 = 0.58$, $df = 2$, $p = .75$), the revised model still adequately fit the observed data when evaluating model fit through the chi-square difference test (Schermelleh-Engel et al., 2003). Additional fit indices such as GFI (Goodness-of-Fit Index), TLI (Tucker-Lewis Index), and CFI (Comparative Fit Index) are all greater than .90, indicating adequate model fit (Hu & Bentler, 1999). RMSEA (Root Mean Square Error of Approximation) is less than .05 and SRMR is less than .10, suggesting good model fit (Kline, 2005). The comparison of fit statistics of the proposed and revised model is presented in Table 4.12. Squared multiple correlations ($R^2$) for the level of acculturation ($R^2 = .23$, $p < .01$), acculturative stress ($R^2 = .21$, $p < .01$), and depression ($R^2 = .31$, $p < .05$) in the revised model were all significant. The model explained 31% of the total variance in depression, and this is statistically significant based on bootstrapping estimation.

Table 4.12

Model fit statistics of proposed and revised path model.

<table>
<thead>
<tr>
<th>Fit statistics</th>
<th>Proposed path model</th>
<th>Revised path model</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>0.58</td>
<td>2.28</td>
</tr>
<tr>
<td>$p$</td>
<td>.75</td>
<td>.69</td>
</tr>
<tr>
<td>$df$</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>$\chi^2/df$</td>
<td>0.29</td>
<td>0.57</td>
</tr>
<tr>
<td>GFI</td>
<td>1.00</td>
<td>.99</td>
</tr>
<tr>
<td>AGFI</td>
<td>.98</td>
<td>.96</td>
</tr>
<tr>
<td>TLI</td>
<td>1.18</td>
<td>1.11</td>
</tr>
<tr>
<td>CFI</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>NFI</td>
<td>1.00</td>
<td>.98</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>AIC</td>
<td>52.58</td>
<td>50.28</td>
</tr>
<tr>
<td>SRMR</td>
<td>.01</td>
<td>.02</td>
</tr>
</tbody>
</table>

Note. GFI, Goodness-of-Fit Index; AGFI, adjusted GFI; TLI, Tucker-Lewis Index; CFI, Comparative Fit Index; NFI, Normal Fit Index; RMSEA, Root Mean Square Error of Approximation; AIC, Akaike Information Criterion; SRMR, Standardized Root Mean Square Residual.
Research question 5: What are the effects of coping resources and somatization on the relationship between Korean immigrant elders’ acculturative stress and their depressive symptoms? A path analysis was conducted to examine whether religiosity and social support would mediate the effect of acculturative stress on depression and what role somatization play in the model. Social support, religiosity, and somatization variables were added to the revised model that was generated in research question 4. Religiosity was initially entered but removed from the model since it did not have significant correlations with depression and acculturative stress and it did not meet the assumptions of normality, linearity, and homoscedasticity with other variables. Somatization was entered to replace religiosity due to its significant partial correlations with acculturative stress and depression. In bivariate analyses, acculturative stress, somatization, and depression had significant positive correlations. A partial correlation analysis was conducted to test for the unique relationship between depression and somatization when acculturative stress was controlled for. The correlation coefficient between somatization and depression ($r = .40, p<.001$) decreased when acculturative stress was controlled for, but it was still significant ($r = .31, p = .001$). Thus, somatization was allowed to enter in the path model to replace religiosity in examining whether somatization would mediate the effect of acculturative stress on depression among Korean immigrant elders. Figure 4.3 presents the proposed model of Korean immigrant elders’ acculturative stress, social support, and somatization on depression. In the proposed model, SES, length of stay, stressful life events and living with others were exogenous variables, and the level of acculturation, acculturative stress, social support, somatization, and depression were endogenous variables. The residual plots (Normal P-P
plot and scatterplot) were generated and the assumptions of normality, linearity, and homoscedasticity were met for the variables. Multicollinearity was not a concern in the model.

The proposed model with the addition of social support and somatization suggests the following: (1) social support and somatization have direct effects on depression and partially mediate the effect of acculturative stress on depression; (2) acculturative stress, social support, and somatization partially mediate the effect of the level of acculturation on depression; (3) the level of acculturation has a direct effect on somatization; (4) SES has a direct effect on social support, but it has an indirect effect on depression; (5) length of stay and living with others have direct and indirect effects on depression; and (6) stressful life events have an indirect effect on depression. A path analysis was run to test the proposed model. Three standardized path coefficients from SES to social support, from living with others to depression, and from the level of acculturation to depression were insignificant. In order to make the proposed model more parsimonious, each insignificant path was removed consecutively when a chi-square difference test indicated that the null hypothesis of equal fit for both models could not be rejected (Schermelleh-Engel et al., 2003).

The path from SES to social support was first removed from the proposed model and a chi-square difference test compared the two models. The result showed that the difference in the chi-square values was insignificant ($\chi^2_{\text{diff}}=3.05$, $df_{\text{diff}}=1$, $p = .08$), which indicated that the two competing models equally fitted the data well. So the path from SES to depression was removed from the proposed model. Another chi-square difference test was utilized for the comparison of the model fit after removing the insignificant path
from living with others to depression out of the newly trimmed model. The chi-square difference was insignificant ($\chi^2_{\text{diff}} = 3.63$, $df_{\text{diff}} = 1$, $p = .06$), which indicated that the two competing models equally fitted the data. A final chi-square difference test was utilized for the comparison of the model fit after removing the insignificant path between the level of acculturation and depression from the newly trimmed model. The chi-square difference was insignificant ($\chi^2_{\text{diff}} = 1.92$, $df_{\text{diff}} = 1$, $p = .17$), which indicated that the two competing models equally fitted the data. Thus, the three insignificant paths were removed from the proposed model consecutively and the finally revised model had all significant standardized and unstandardized path coefficients at $p < .05$. Figure 4.4 presents the revised model.
Figure 4.3. Proposed path model of Korean immigrant elders’ acculturative stress, social support, somatization, and depression.

Figure 4.4. Revised path model of Korean immigrant elders’ acculturative stress, social support, somatization, and depression. *Note*: Numbers are statistically significant standardized path coefficients ($p < .05$).
Table 4.13 presents the standardized direct, indirect, and total effects on depression in the revised model. The effect of acculturative stress on depression before including social support and somatization ($\beta = .43, p \leq .001$) produced a smaller effect size after social support and somatization were entered into the model ($\beta = .29, p \leq .001$). Its direct effect on depression was still significant but no longer the largest of other variables in this model and it became similar to the direct effects of social support and somatization. Social support ($\beta = -.30, p < .01$) and somatization ($\beta = .28, p < .01$) had significant direct effects on depression as proposed; however, since the direct effect of acculturative stress on depression was still significant, the proposal that social support and somatization would partially mediate the effect of acculturative stress on depression was supported. Acculturative stress had a small but the largest significant indirect effect through social support and somatization in this model ($\beta = .17, p \leq .001$). The direct and indirect effects of acculturative stress on depression became the largest total effect of acculturative stress on depression in this model ($\beta = .46, p < .01$). The finding indicates that social support and somatization partially mediated the effect of acculturative stress on depression. In other words, higher levels of acculturative stress among the participants were directly associated with more depressive symptoms, but those participants with higher levels of acculturative stress also experienced more depressive symptoms because of less social support and more somatization.

The proposal that the level of acculturation had a direct effect on somatization was supported in the revised model. Its direct effect was small but significant and negative ($\beta = -.19, p < .03$). The finding suggests that more acculturated participants were less likely to express somatic symptoms. It was noted that the direct effects of level
of acculturation on depression, which had been significant before including social support and somatization in the model, was no longer significant in this revised model. The level of acculturation had minimal but significant indirect effects on depression via acculturative stress, social support, and somatization ($\beta = -0.13, p < .01$). Thus, unlike the initial proposal, the model indicates that acculturative stress, social support, and somatization mediated the effect of the level of acculturation on depression fully, not partially as proposed. This finding suggests that participants’ levels of acculturation did not directly affect their experience of depressive symptoms, but the more acculturated participants experienced less acculturative stress, more social support, and less somatization, and as a result, they experienced fewer depressive symptoms.

SES did not have a significant direct effect on social support as proposed, but it had the largest indirect effects on depression through the level of acculturation, acculturative stress, social support, and somatization ($\beta = -0.17, p \leq .001$), which were negative and significant. The finding suggests that participants with higher socioeconomic status had higher levels of acculturation, less acculturative stress, less somatization, and more social support, and as a result, they experienced fewer depressive symptoms.

Length of stay and stressful life events produced the same effects on depression as those in the revised model generated in research question 4: Length of stay had no significant total effect on depression and stressful life events had a significant indirect effect on depression. However, the total effect of living with others on depression was different from that in the revised model generated in research question 4. With the addition of social support and somatization, the revised model indicated that the total
effect of living with others on depression was significant. In other words, living with others no longer had a significant direct effect on depression, but it had a minimal but significant indirect effect on depression (β = .04, p < .01). The finding suggests that participants living with others (including spouses and children, children only, or others) had lower levels of acculturation, more acculturative stress, more somatization, and less social support, and as a result, they experienced more depressive symptoms than those living alone.

Table 4.13

*Standardized direct, indirect, and total effects on depression.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Direct effect</th>
<th>Indirect effect</th>
<th>Total effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatization</td>
<td>.28**</td>
<td>--</td>
<td>.28**</td>
</tr>
<tr>
<td>Social support</td>
<td>-.30**</td>
<td>--</td>
<td>-.30**</td>
</tr>
<tr>
<td>Acculturative stress</td>
<td>.29***</td>
<td>.17***</td>
<td>.46**</td>
</tr>
<tr>
<td>The level of acculturation</td>
<td>--</td>
<td>-.13**</td>
<td>-.13**</td>
</tr>
<tr>
<td>SES</td>
<td>--</td>
<td>-.17***</td>
<td>-.17***</td>
</tr>
<tr>
<td>Length of stay in the U. S.</td>
<td>.13*</td>
<td>-.11**</td>
<td>.02</td>
</tr>
<tr>
<td>Stressful life events</td>
<td>--</td>
<td>.09*</td>
<td>.09*</td>
</tr>
<tr>
<td>Living with others</td>
<td>--</td>
<td>.04**</td>
<td>.04**</td>
</tr>
</tbody>
</table>

$R^2=.37$

*p < .05. ** p < .01. ***p ≤ .001.

All significant standardized and unstandardized path coefficients in the revised model yielded a chi-square value of 20.04 with 16 degrees of freedom and a probability of .22. Although the revised model yielded a higher chi-square value than the proposed model ($\chi^2=11.45$, df = 13, p = .57), the revised model still adequately fits the observed
data when evaluating model fit through the chi-square difference test (Schermelleh-Engel et al., 2003). Additional fit indices such as GFI (Goodness-of-Fit Index), TLI (Tucker-Lewis Index), and CFI (Comparative Fit Index) are all greater than .90, indicating adequate model fit (Hu & Bentler, 1999) except for NFI (Normal Fit Index), which is slightly below .90. RMSEA (Root Mean Square Error of Approximation) is .05 and SRMR is less than .10, suggesting good model fit (Kline, 2005). Table 4.14 presents the comparison of fit statistics of the proposed and revised model. Squared multiple correlations ($R^2$) for the level of acculturation ($R^2 = .23, p < .01$), acculturative stress ($R^2 = .21, p < .01$), somatization ($R^2 = .13, p < .01$), social support ($R^2 = .11, p < .01$), and depression ($R^2 = .37, p < .01$) in the revised model were all significant. The model explained 37% of the total variance in depression, and this is statistically significant based on bootstrapping estimation.

Table 4.14

*Model fit statistics of proposed and revised path model.*

<table>
<thead>
<tr>
<th>Fit statistics</th>
<th>Proposed path model</th>
<th>Revised path model</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>11.45</td>
<td>20.04</td>
</tr>
<tr>
<td>$p$</td>
<td>.57</td>
<td>.22</td>
</tr>
<tr>
<td>$df$</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>$\chi^2/df$</td>
<td>0.88</td>
<td>1.25</td>
</tr>
<tr>
<td>GFI</td>
<td>.98</td>
<td>.96</td>
</tr>
<tr>
<td>AGFI</td>
<td>.92</td>
<td>.90</td>
</tr>
<tr>
<td>TLI</td>
<td>1.03</td>
<td>.93</td>
</tr>
<tr>
<td>CFI</td>
<td>1.00</td>
<td>.97</td>
</tr>
<tr>
<td>NFI</td>
<td>.93</td>
<td>.88</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.00</td>
<td>.05</td>
</tr>
<tr>
<td>AIC</td>
<td>75.45</td>
<td>78.04</td>
</tr>
<tr>
<td>SRMR</td>
<td>.04</td>
<td>.06</td>
</tr>
</tbody>
</table>

*Note.* GFI, Goodness-of-Fit Index; AGFI, adjusted GFI, TLI, Tucker-Lewis Index; CFI, Comparative Fit Index; NFI, Normal Fit Index, RMSEA, Root Mean Square Error of Approximation; AIC, Akaike Information Criterion; SRMR, Standardized Root Mean Square Residual.
Summary of Results

Descriptive and inferential analyses were conducted to describe and analyze to what extent and in what way Korean immigrant elders underwent and coped with their acculturative stress and depressive symptoms when they resided in areas without any Korean ethnic enclave. First, univariate analyses were conducted to examine characteristics of socio-demographics, stressors, coping resources, somatization, and depression in Korean immigrant elders. Most of the data were positively or negatively skewed, which were transformed. However, those severely skewed data such as IADL, stressful life events, and religiosity showed the lack of variability. The lack of variability in religiosity might explain the reason why it did not have any direct or indirect effect on depression in the path analysis. It was also noted that on average 30% of participants used the response of not applicable to most of items of acculturative stress variable and those responses were replaced with means of each item in principal components analysis and reliability analysis tested in research question 3. However, such replacement might have affected the sample size and the results of multivariate analyses.

Bivariate analyses were conducted to examine intercorrelations among the observed variables. Intercorrelations were low to moderate among the variables, but there were no high intercorrelations to cause any multicollinearity problem. Bivariate analysis findings suggested that some variables such as depression, somatization, social support, acculturative stress, level of acculturation, and SES, are moderately correlated and appropriate for multivariate analyses; however, variables such as age, gender, marital status, IADL, and religiosity were weakly correlated to acculturative stress and depression.
Reliability analyses were conducted to examine the internal consistency of scales used in this study. Lastly, five research questions were examined by conducting multivariate analyses including multiple regression analyses, principal components analyses, and path analyses. As suggested in bivariate analyses, significantly correlated variables became strong predictors in multiple regression analyses. Most socio-demographic variables did not predict acculturative stress and depression. A principal components analysis finding suggests that language difficulty/limited English proficiency is the most stressful dimension of acculturative stress among Korean immigrant elders residing in areas without any Korean ethnic enclaves. Religiosity was not a strong predictor of depression in the multiple regressions and did not have any direct and indirect effect on depression in the path analysis. Thus, religiosity was removed from the multiple regressions and path analyses. Interestingly, somatization was initially entered into the multiple regression model due to its moderate correlation with depression, but it became a strong predictor of depression in the multiple regression model. Somatization had direct and indirect effects on depression in the path model, so it replaced religiosity in the path model.

Acculturative stress was the strongest factor explaining depression in the path model generated in research question 4; however, when social support and somatization were entered into the path model, the direct effect of acculturative stress on depression became smaller. Thus, its total effect on depression became larger due to its indirect significant effect on depression through social support and somatization. The findings suggest that social support and somatization did not fully mediate the effect of acculturative stress on depression, so acculturative stress increased more depressive
symptoms not only directly but also by weakening social support and strengthening somatization. Socioeconomic status as a personal resource did not directly weakened the effect of acculturative stress on depression, but it indirectly strengthened the level of acculturation and weakened acculturative stress, which in turn reduced depression.

This study found that the level of acculturation directly and indirectly weakened depression; however, when social support and somatization were included in the path model, the effect of the level of acculturation on depression was mediated through acculturative stress. Further discussion of these findings along with the limitations of the study will be developed in Chapter 5.
Chapter 5. Discussion

This chapter presents a summary of major findings, followed by the discussion of the findings. It will also discuss the study’s strengths, limitations, implications of the findings for social work practice and policy, directions for future research, and then conclude.

Summary of Major Findings

Studies of Korean immigrant elders have examined the relationships among acculturative stress, coping resources, and depression (Jang & Chiriboga, 2010; Han et al., 2007; Kang et al., 2009; Mui, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008; Noh & Avison, 1996); however, few studies have examined the relationships among Korean immigrant elders who reside in areas without Korean ethnic enclaves. The purpose of this exploratory study was to understand acculturative stress and its impact on the psychological well-being of Korean immigrant elders residing in areas without Korean ethnic enclaves.

Accordingly, the first objective of this study was to examine to what extent Korean immigrant elders experience acculturative stress and depression when they reside in areas outside of Korean ethnic enclaves. The second objective of this study was to examine what personal factors are associated with acculturative stress and depression in Korean immigrant elders. The focus of the third objective was to examine to what extent coping resources play a mediating role between levels of acculturative stress and depression among Korean immigrant elders. Lazarus and Folkman’s (1984) stress and coping theory, Aldwin’s (2007) sociocultural stress and coping model, and other studies of Korean elders’ coping and adaptation guided this study’s conceptual framework.
A cross-sectional, structured survey was conducted to examine the relationships among acculturative stress, coping, and depression of Korean immigrant elders residing in areas without Korean ethnic enclaves. With the use of convenience and snowball sampling, 111 Korean immigrant elders aged 60 or older participated in this study. Data were collected and analyzed to describe the characteristics of the sample and the study variables as well as to examine five specific research questions addressing study objectives. Univariate, bivariate, and multivariate analyses such as multiple regression analyses, principal components analyses, and path analyses were conducted. The variables selected for multivariate analyses included: depression, somatization, social support, stressful life events, acculturative stress, level of acculturation, living arrangement, length of stay in the United States, and socioeconomic status (SES). Religiosity, instrumental activities of daily living, age, gender, and marital status were not used in multivariate analyses since the variables did not have significant relationships with acculturative stress and depression.

Twenty one percent of Korean immigrant elders in this study reported depressive symptoms higher than the cut-off score of 5 with the GDS-SF. This prevalence rate of depressive symptoms was slightly lower than the 24% found in a sample of Korean immigrant elders residing in Florida measured with the GDS-SF scale (Jang et al., 2005a). Korean immigrant elders in this study, on average, experienced slightly lower levels of acculturative stress as indicated by lower mean scores of the ASI (Acculturative Stress Index) and stressful life events, but had higher mean scores with instrumental activities of daily living. The study also found that acculturative stress measured by the ASI was the strongest predictor of depression among the participants. When a principal
components analysis was performed to examine the dimensions of acculturative stress, the study found that Korean immigrant elders perceived limited English proficiency as the most stressful dimension of acculturative stress, followed by intergenerational problems, social discrimination, lack of opportunities for occupational mobility, a sense of marginality, and social isolation.

Personal factors such as the level of acculturation, SES, and stressful life events were predictors of acculturative stress in a multiple regression model. When the relationships among personal factors, acculturative stress, and depression were examined in a path model, acculturative stress was the strongest positive predictor of depression among Korean immigrant elders. The level of acculturation was the second strongest predictor of depression. The level of acculturation and SES played a role in suppressing acculturative stress, which, in turn, reduced the levels of depression among Korean immigrant elders. Thus, Korean immigrant elders with higher levels of acculturation and socioeconomic status reported less acculturative stress and subsequently reported fewer depressive symptoms. In this study, the level of acculturation had direct and indirect significant effects on depression; therefore, acculturative stress partially mediated the relationship between the level of acculturation and depression. Length of stay in the United States and living with others had significant direct and indirect effects on depression in the path model; however, their relationships with depression turned out to be spurious because their direct and indirect effects cancelled each other out and produced insignificant total effects in the path model of depression.

When social support and somatization were added to the multiple regression model of depression, personal factors no longer became the predictors of depression, but
social support, somatization, and acculturative stress became significant predictors of depression. Interestingly, social support became the strongest predictor of depression. Korean immigrant elders with strong social support from families and friends reported fewer depressive symptoms, which indicated that social support turned out to be an important coping resource for Korean immigrant elders in this study. Interestingly, somatization became another significant predictor of depression, which indicated that Korean immigrant elders tended to express their depressive symptoms somatically.

When social support and somatization were added to the path model, their direct effects on depression were still significant and similar to the multiple regression model and the direct effect of acculturative stress on depression was significant and similar to those of social support and somatization. However, the total effect of acculturative stress on depression became the largest of all the variables since its significant indirect effect of acculturative stress on depression was added to its direct effect. The findings indicate that acculturative stress directly increased Korean immigrant elders’ depressive symptoms, but it also indirectly increased their depressive symptoms by weakening the impact of social support and strengthening the impact of somatization. Thus, Korean immigrant elders were less likely to report depressive symptoms when they had stronger social support; however, when they experienced higher levels of acculturative stress, these higher levels of acculturative stress were likely to increase their depressive symptoms directly as well as by taxing their social support and increasing their somatic complaints. These findings indicate the importance of assessing the harmful effects of acculturative stress on depression among Korean immigrant elders residing in areas without Korean ethnic enclaves.
In the path model without social support and somatization, the level of acculturation and SES had significant and medium total effects on depression, which indicated that they played a stress-suppressing role as personal resources. However, in the path model with social support and somatization, their total effects became smaller. The level of acculturation no longer had a significant direct effect on depression, but it had a significant indirect effect on depression through acculturative stress, social support, and somatization. Interestingly, the total effect of the level of acculturation on depression was much smaller than those of social support and somatization. SES did not have any direct effect on depression and its indirect effect on depression was medium in the path model without social support and somatization. However, in the path model with social support and somatization, the indirect effect of SES on depression became smaller by lowering acculturative stress and somatization and increasing the level of acculturation and social support. Thus, these findings indicate that the impact of those personal resources on depression became less relevant when coping resources were entered in the path model of depression.

**Discussion of the Findings**

**Depression.**

Earlier studies on the community-residing immigrant elderly have found the prevalence rate of depressive symptoms measured with the GDS ranging from 12% to as high as 40% (Mui, 2000; Mui & Kang, 2006; Shibusawa & Mui, 2002). This study found that 21% of Korean immigrant elders reported depressive symptoms higher than the cut-off score of 5 with the GDS-SF. This prevalence rate of depressive symptoms was slightly lower than the 24% found in a sample of Korean immigrant elders residing in Florida measured with the GDS-SF scale (Jang et al., 2005a). The mean of the GDS-SF
in this study ($M = 3.11$) was slightly lower than means of other Korean immigrant elders that have ranged from 3.73 (Jang & Chiriboga, 2010) to 4.22 (Jang et al., 2005a). The mean in this study was much lower than Korean elders residing in Korea ($M = 5.66$), but much higher than U.S. community elders in Florida ($M = 1.84$) (Jang et al., 2001).

The prevalence rate and mean score of depressive symptoms in this study are not consistent with those in Kang et al.’s (2009) study. Kang et al. found that 38% of Arizona elders were mildly to severely depressed (compared to 24% of New York counterparts) and that Arizona elders’ GDS mean score (9.40) was higher than their New York counterparts’ mean score (7.80). The findings indicate that Arizona’s Korean immigrant elders residing in non-ethnic enclaves had higher rates of depressive symptoms than New York counterparts residing in Korean ethnic enclaves. Contrary to Kang et al.’s study findings, this study found that the prevalence rate and mean score of depressive symptoms among Korean immigrant elders residing in areas without Korean ethnic enclaves were much lower.

It is interesting to speculate on possible reasons why Korean immigrant elders in this study did not experience higher depressive symptoms. One possibility is that the current study appears to support previous research that higher SES and longer length of stay in the United States among immigrant elders might be strongly associated with the lower mean score of the GDS-SF (Mui & Shibusawa, 2008). More than two thirds of Korean immigrant elders in this study had post-high school education. Almost 39% reported being employed and 30% reported their annual income more than $40,000, which is not surprising given the age criterion of the study ($\geq 60$). All Korean immigrant elders in this study had stayed in the United States longer than 11 years and 93% of them
had stayed more than 21 years, which indicate that no recently arrived immigrants participated in the study. Prior studies indicated that shorter lengths of stay in the United States were associated with immigrant elders having adjustment problems such as language difficulty, social isolation, and family dependence (Leach, 2009) and migratory grief (Casado et al., 2010). Thus, the unexpected finding of lower depressive symptoms among Korean immigrant elders in this study is consistent with prior study findings (Takeuchi et al., 2007; Wilmoth & Chen, 2003) that those immigrant elders who recently immigrated to the United States were more likely to report depressive symptoms than those who immigrated at an earlier age.

**Acculturative stress.**

Numerous studies of Asian immigrants found that there is a significant relationship between acculturative stress and depression (Han et al., 2007; Ji & Duan, 2006; Kang et al., 2009; Kim et al, 2005; Mui, 1998, 2000; Mui & Kang, 2006; Noh & Avison, 1996; Oh et al., 2002; Shibusawa & Mui, 2002; Shin et al., 2007). This study examined levels of acculturative stress by using three variables: instrumental activities of daily living and stressful life events for measuring current stressors, and acculturative stress for measuring daily hassles and chronic strains. Considering the mean scores of all three variables, this study indicates that Korean immigrants elders, on average, experienced lower levels of acculturative stress. The data indicate that 93% of the participants were physically and cognitively functioning in their daily living; the mean score of stressful life events was very low ($M=0.76$); and the mean score (39.74) of acculturative stress measured by the ASI was lower than other studies (Lee, 2003; Noh & Avison, 1996).
There was a significant correlation between stressful life events and acculturative stress, but there was no significant correlation between instrumental activities of daily living and acculturative stress. This may be attributed to overrepresentation of physically and cognitively high functioning participants in the sample. Given that the study excluded participants with physical and cognitive disability, a great majority of Korean immigrant elders reported their physical and cognitive levels of functioning as high. This study found that Korean immigrant elders did not perceive their instrumental activities of daily living as stressful, so instrumental activities of daily living were not a significant predictor of depression, which was consistent with Ahn’s (2005) study in which the IADL scores measured the level of physical function of Korean immigrant elders. However, it is interesting to note that when Ahn measured perceived health status of the respondents, perceived health status had a significant buffering factor for depression, which was consistent with previous studies that self-rated poorer health was a correlate of depressive symptoms among Asian immigrants (Diwan, 2008; Diwan et al., 2004; Mui, 1996, 1998, 2000; Mui & Kang, 2006; Stokes et al., 2002).

An earlier study on the life stress model strongly indicated that for older people, significant undesirable life events have a more enduring effect on psychological wellbeing than status changes (Ensel et al., 1996). Since health-related events to the older people and their families and friends increase over age, the study found that more recent accidents or injuries led to higher levels of current depression. Previous studies have addressed the impact of stressful life events associated with immigration on mental distress or depressive symptoms (Casado et al., 2010, Casado & Leung, 2002; Mills & Henretta, 2001; Mui, 1996, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008; Treas &
Mazumdar, 2002). Contrary to previous studies, stressful life events were a predictor of acculturative stress in this study, but not a predictor of depression; however, stressful life events had a significant indirect effect on depression by increasing acculturative stress.

This study found that when measured by the ASI, acculturative stress was the strongest predictor of depression among Korean immigrant elders, which was consistent with previous studies (Lee, 2003; Noh & Avison, 1996; Park & Rubin, 2012). Acculturative stress is a multi-dimensional concept of chronic life strains in seven areas: language difficulty, homesickness, social isolation, social discrimination, sense of marginality, opportunity for occupational and financial mobility, and family problems (Noh & Avison, 1996). A principal components analysis in this study found that Korean immigrant elders perceived six dimensions of acculturative stress (limited English proficiency, intergenerational problems, social discrimination, lack of occupational mobility, a sense of marginality, and social isolation) as stressful. Of six dimensions, Korean immigrant elders viewed limited English proficiency as the most stressful, which was consistent with previous findings that limited English proficiency has been identified as one of the most difficult stressors among Asian American immigrant elders (Casado & Leung, 2002; Chung, 2005; Diwan, 2008; Kang et al., 2009; Kuo & Tsai, 1986; Mui, 2000; Mui et al., 2007; Mui & Shibusawa, 2008; Takeuchi et al., 2007).

In this study, limited English proficiency was considered as a daily hassle, one type of acculturative stressors, which was discussed in the Literature Review in Chapter 2. Daily hassles can refer to “a repeated metric of stress in living” (Lazarus & Folkman, 1984, p. 312). Although they may be considered as minor daily annoyances compared to life events, given their frequency and/or intensity, daily hassles may be more significant
predictors of psychological distress than life events (Lazarus & Folkman, 1984), which may explain why stressful life events were not a significant predictor of depression but acculturative stress due to daily hassles became a significant predictor of depression in this study. Korean immigrant elders identified their stress due to their limited English proficiency more frequently in understanding official documents, reading newspapers/magazines, and understanding the TV/radio. Since they reside in areas without any Korean ethnic enclaves, they lack community resources including Korean-speaking health care providers and social services available in Korean ethnic enclaves in metropolitan cities. Thus, their limited English proficiency negatively affects their confidence in communicating daily with people from the mainstream society and/or in accessing medical and/or social services (Mui & Shibusawa, 2008). This study found that, of six dimensions of acculturative stress, limited English proficiency was the strongest predictor of depression, which was consistent with the finding that for Korean immigrant elders residing in non-ethnic enclaves, limited English proficiency was the strongest predictor of depression (Kang et al., 2009). Thus, it seems that as Korean immigrant elders with limited English proficiency become more vulnerable and severely disadvantaged, they experience more depressive symptoms.

When immigrant elders have limited English proficiency and lack community resources, they tend to depend on their families for assistance and support on a daily basis; however, when their adult children are more assimilated to the mainstream culture and hold fewer Korean traditional values of filial duty and interdependence, Korean immigrant elders are at a great risk of experiencing intergenerational conflicts. Along this line, this study found that Korean immigrant elders perceived intergenerational
problems as the second most stressful dimension of acculturative stress and intergenerational problems were strongly correlated with depressive symptoms (Diwan, 2008; Diwan et al., 2004; Ingersoll-Dayton, Saengtienchai, Kespichayawattana, & Aungsuroch, 2004; Mui, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008). This may explain why the coping efficacy of social support on depression was weakened rather than strengthened by the negative impact of acculturative stress on social support. The negative impact of intergenerational conflicts may have deteriorated the strength of social support among Korean immigrant elders, which subsequently resulted in higher levels of depression.

Of six dimensions of acculturative stress in this study, four dimensions (social discrimination, lack of occupational mobility, sense of marginality, and social isolation) were significantly associated with depression among Korean immigrant elders (Chung, 2005; Mui et al., 2007; Noh & Caspar, 2003; Shin et al, 2007), and due to the minority status of Asian immigrant elders, social discrimination, lack of occupational mobility, sense of marginality, and social isolation were found to be the frequent stressors among Asian immigrant elders and strongly associated with depression or mental health.

**Personal factors, acculturative stress, and depression.**

Using a multiple regression analysis, this study examined what personal factors were strongly associated with acculturative stress of Korean immigrant elders residing in areas without Korean ethnic enclaves. Of personal factors (living arrangement, length of stay, SES, IADL, level of acculturation, and stressful life events), SES, the level of acculturation, and stressful life events were found to be significant predictors of acculturative stress. The findings that SES and the level of acculturation had negative relationships with acculturative stress were consistent with Park and Rubin’s (2012)
finding. This study found that the effect size of stressful life events on acculturative stress was the same as the level of acculturation, but their directions were the opposite: The effect of stressful life events was positive, whereas that of levels of acculturation was negative. In other words, Korean immigrant elders with more stressful life events were likely to experience higher levels of acculturative stress, whereas the elders with higher acculturation were likely to experience lower levels of acculturative stress.

This study further examined the relationships among personal factors, acculturative stress, and depression by using a path model. When depression was entered into the path model, acculturative stress was the strongest factor of depression among Korean immigrant elders, which was consistent with previous studies on Korean immigrants (Park & Rubin, 2012; Shin et al., 2007), Korean elderly (Han et al., 2007), and Mexican college students (Crockett et al., 2007). The level of acculturation was the second strongest predictor of depression, and it negatively impacted the scores of depression among Korean immigrant elders directly and indirectly. Acculturative stress partially mediated the impact of the level of acculturation on depression, which was not consistent with other previous studies (Jang & Chiriboga, 2010; Park & Rubin, 2012). Higher levels of acculturation among Korean immigrant elders in this study might have played a role in deterring or suppressing acculturative stress, which subsequently reduce depressive symptoms, while the direct association between levels of acculturation and depression remained statistically significant. This finding indicates that higher levels of acculturation negatively impact depression, but they also lower the levels of depression by decreasing levels of acculturative stress. Thus, it suggests that when working with
depressed Korean immigrants elders, health care professionals or social workers should assess both levels of acculturation and acculturative stress.

In this study, SES was the third strongest factor when depression was entered into the path model among Korean immigrant elders. The finding that SES had a significant and negative indirect effect on depression in conjunction with levels of acculturation and acculturative stress was consistent with Park and Rubin’s (2012) finding. The finding that SES as a resource suppresses depression through acculturative stress is consistent with a stress-suppressing model, which is one of the Ensel and Lin’s (1991) deterring models. In other words, Korean immigrant elders’ higher education, employment, and higher income enhanced levels of acculturation and deterred acculturative stress, which, in turn, reduced levels of depression.

In this study, length of stay and living arrangement were not significantly associated with acculturative stress in a multiple regression model, but when they were entered into the path model, they had direct and indirect effects on depression. Interestingly, in this study, longer length of stay was positively associated with depression, which indicates that Korean immigrant elders with longer length of stay reported more depressive symptoms than those with shorter length of stay. It may be possible that longer length of stay may be a surrogate for aging, and as the longer-staying Korean immigrant elders (21 years or more) get older, they may be exposed to more age-related stressful life events such as family members or friends’ death or illness than those who stayed between 11 and 20 years. In this study, living with others (i.e., spouses and children, children only, or others) reported less depressive symptoms than living alone. However, both length of stay and living with others had indirect effects, which
subsequently explained away their direct effects on depression; therefore, the total effects of both variables became insignificant, which may indicate that their significant correlations with depression were spurious. The spurious relations between the two variables and depression may be explained by the finding that the two variables were not significant predictors of depression in the multiple regression model.

Length of stay in the United States has often been used as a proxy measure to indicate levels of acculturation of immigrants. Longer length of stay was correlated with higher levels of acculturation among immigrants, given that long-term immigrants have more knowledge and stronger language skills to access and utilize community resources than recently arrived counterparts (Leach, 2009). In this study, a great majority (93%) of the participants had stayed in the United States for more than 21 years, which was different from the New York sample of Mui and Shibusawa (2008) with a shorter average length of stay (16.3 years) in the United States. Interestingly, despite the longer length of stay of Korean immigrant elders, the mean score (2.27) of the level of acculturation fell between low and moderate one, and somewhat close to moderate or bicultural. The mean score was similar to previous studies (Jang & Chiriboga, 2010; Oh et al., 2002; Park & Rubin, 2012), indicating that long-term Korean immigrant elders still hold their strong traditional cultural or ethnic identity. The finding of Korean immigrants’ lower to moderate levels of acculturation may be explained by Hurh and Kim’s (1984) notion about “adhesive sociocultural adaptation” of Korean immigrants in the United States. Hurh and Kim empirically confirmed that longer length of stay in the United States, higher socioeconomic status, and higher rates of sociocultural assimilation among 615
Korean immigrants in the Los Angeles area did not affect their strong and unmitigated Korean ethnic attachment (Hurh & Kim, 1988).

A majority of Korean immigrant elders (72.1%) in this study lived only with their spouses and a small number (6.3%) of Korean immigrant elders in this study lived alone. These data were not unexpected given that a majority (91%) of the study participants was married. However, these findings appeared to provide some support for Korean immigrant elders’ desire to live independently and their adaptation to the nuclear family norm of the current society. Although living alone was more associated with depression than living with others in this study, which was consistent with previous studies (Mui, 1996, 1998, 2000), the effect of living with others on depression was spurious since the direct effect of living with others on depression was explained away by its indirect effect on depression. However, when social support and somatization were entered into the path model, living with others no longer had a direct effect on depression, but it had a minimal but significant indirect effect on depression through lowering the levels of acculturation and social support and increasing acculturative stress and somatization.

The finding may indicate that compared to living alone, Korean immigrant elders living with others (i.e., living with spouses and children, only children or others) were more likely to be less acculturated and experience more acculturative stress, more somatic symptoms, and less social support, which, in turn, may lead to higher levels of depression. For immigrant elders, adult children are playing a role of “broker between a confined ethnic community and the wider mainstream society” (Han et al., 2007, p. 123). The finding suggests that living with adult children in an extended family is no longer viewed as a virtue of preserving cultural tradition and customs in the mainstream society.
It may instead suggest that Korean immigrant elders view their living with others as more dependent on their adult children and more confined in their own households, likely to increase their intergenerational conflicts with their adult children and depressive symptoms.

**Acculturative stress, social support, somatization, and depression.**

This study used a multiple regression model to examine which predictors (including personal factors, acculturative stress, social support, and somatization) were associated with depression of Korean immigrant elders residing in areas without any Korean ethnic enclaves. This study found that social support, somatization, and acculturative stress were significant predictors of depression and that social support was the strongest predictor of depression in the multiple regression model. The finding that social support had a significant negative relationship with depression was consistent with previous studies (Diwan et al., 2004; Kuo & Tsai, 1986; Han et al., 2007; Mui, 1996, 2000; Mui & Kang, 2006; Mui & Shibusawa, 2008; Noh & Avison, 1996; Shin et al., 2007). In the multiple regression model, somatization was the second strongest predictor of depression and had a positive relationship with depression, which was consistent with previous studies (Casado & Leung, 2002; Kleinman, 1988; Kuo, 1984; Pang, 1995, 2000; Wu et al., 2010).

In order to test the stress and coping model, social support and somatization were added to the previous path model that examined the relationships among personal factors, acculturative stress, and depression. Social support and somatization were proposed to play a coping role in the relationship between acculturative stress and depression among Korean immigrant elders. Before social support and somatization were entered into the
path model, acculturative stress had the strongest direct effect on depression; however, once social support and somatization were entered, they partially mediated the direct positive impact of acculturative stress on depression. In other words, the direct positive impact of acculturative stress on depression was eventually reduced but still significant, while the indirect impact of acculturative stress increased levels of depression by weakening social support and strengthening somatization.

The results provide some support for different models of the life stress process that have been hypothesized by Ensel and Lin (1991). The finding that social support had a significant direct effect on depression is consistent with the independent model of Ensel and Lin that resources protect against distress, regardless of presence or absence of stressors. The finding that social support directly reduced levels of depression in the presence of stressors is consistent with Lazarus and Folkman’s (1984) stress and coping theory and the coping model of Ensel and Lin. However, this study found that even if social support directly reduced levels of depression, Korean immigrants’ experience of acculturative stress deteriorated the strength of social support, which, in turn, increased levels of depression. This finding is consistent with a deterioration model, one of the coping models put forth by Ensel and Lin that stressors reduce or weaken resources, which increase mental distress. The deterioration model assumes that acculturative stress precedes social support and social support plays a mediating role between acculturative stress and depression. This study found that social support partially mediated the direct impact of acculturative stress on depression because the impact of acculturative stress on depression was eventually reduced but still significant.

The finding that acculturative stress deteriorated social support and subsequently
increased levels of depression is not consistent with Noh and Avison’s (1996) finding that ethnic social support played a deterring role in reducing subsequent levels of stressful life events, which, in turn, reduced depression among Korean immigrants. Noh and Avison’s finding is consistent with a stress-suppressing model, which is one of the Ensel and Lin’s deterring models. In Noh and Avison’s study, ethnic social support played a role of deterring acculturative stress, whereas in this study, social support from families and friends played a role of coping with acculturative stress. The different findings may be explained due to the fact that both studies used different research designs: Noh and Avison’s study was based on a longitudinal panel study design, whereas this study was based on a cross-sectional design.

The finding that social support from family and friends reduced levels of depression is consistent with earlier studies (Mui, 2000; Mui & Shibusawa, 2008; Wilmoth & Chen, 2003) that found social support mediated stressful experiences as a coping mechanism and enhanced wellbeing of Chinese and Korean elders. In earlier studies, social support was perceived as quality family help, strong kinship ties, co-residence with family, and having good friends. In this study, social support was perceived as satisfaction with family and/or friends’ assistance, emotional support, and having good social relationships. Such study findings indicate that the coping efficacy of perceived social support is enhanced when social support functions to meet the individual’s specific needs and values (Cohen & Wills, 1986; Thoits, 1995). Thus, the results from this study and earlier studies support that immigrant elders reported higher levels of social support when they perceived their social support as satisfying their high cultural expectations toward their adult children’s filial piety and obligations.
Unlike earlier studies, however, this study also found that Korean immigrant elders’ social support was weakened by their acculturative stress, which subsequently increased levels of depression. The finding may be explained by the fact that Korean immigrant elders experienced their limited English proficiency as the most stressful dimension of acculturative stress. Since they reside in areas without any Korean ethnic enclaves that provide more ethnic community services and decrease social isolation (Trean & Mazumdar, 2002; Wong et al., 2007), Korean immigrant elders with limited English proficiency are more likely to depend on their adult children for assistance and support to meet their various needs on a daily basis. As the first generation, they still maintain Korean traditional values on extended family ties and cultural expectations toward their adult children’s filial piety and obligations. However, as previous studies indicated, Asian immigrant family’s cultural values are changing in that more Asian elders live alone and adult children don’t value filial obligations in the same way as in the home country (Mui & Shibusawa, 2008; Wong et al., 2006). Such changing cultural values and family relationships among Korean immigrants may influence Korean immigrant elders’ perceptions of receiving social support from their adult children. Receiving social support from their adult children may not be perceived as satisfying since support and assistance from adult children might be based on feelings of reciprocity rather than based on filial piety (Wong et al., 2007). In Mui and Kang’s (2006) study, received social support from adult children was one of several strong predictors of depression among Asian immigrant elders. Given the earlier study findings (Mui & Kang, 2006; Mui & Shibusawa, 2008; Wong et al., 2006, 2007), this study proposes that acculturative stress due to limited English proficiency among Korean immigrant elders
may exacerbate intergenerational conflicts with their adult children, which may also negatively affect the quality of perceived social support and the wellbeing of Korean immigrant elders.

Another possible explanation of the finding that acculturative stress weakens social support and indirectly increases levels of depression is related to the way social support is perceived and experienced in Asian cultures. In Western cultures in which autonomy and independent relationship are cherished, explicit social support (e.g. problem-solving method) is encouraged and viewed as successful stress coping. However, in Asian cultures in which interdependent relationships are cherished, explicit social support is considered to undermine harmonious relationships and make inappropriate demands on their family and friends. In Asian cultures, implicit social support (being close to family and friends) is considered necessary to maintain harmonious relationships but there is also a value placed on not making inappropriate demands on family and friends. So people in Asian cultures may not seek help from family and friends to manage specific stressful events or solve stressful problems. Rather, they tend to keep their problems to themselves (Kim et al., 2006; Taylor et al., 2004), which may exacerbate levels of acculturative stress among Korean immigrant elders with lingual barriers. Thus, current study findings may explain why acculturative stress indirectly weakens the strength of social support and increases levels of depression among Korean immigrant elders.

As found in earlier studies, Korean immigrant elders in this study reported higher average scores of religiosity, which strongly indicated that religion has been important in their lives and that they have been strongly affiliated with or involved in Korean ethnic
churches during their acculturation period. Earlier studies showed that religiosity has reduced negative affects or depressive feelings (Diwan et al., 2004; Mui & Kang, 2006). However, religiosity in this study did not have significant relationships with acculturative stress and depression and it did not meet the assumptions necessary for multivariate analyses. The univariate analysis showed that a majority of Korean immigrant elders reported religion as important and very important, which might indicate its lack of variance in depression in multivariate analyses. Other studies had a similar finding that when religiosity was entered in multivariate analyses, its impact became insignificant due to its lack of variance (Hurh & Kim, 1990; Kang et al., 2009; Lee et al., 2005).

Religiosity was removed and somatization was entered to replace religiosity in the path model. Somatization was directly and significantly associated with higher levels of depression in the model. The finding that Korean immigrant elders expressing their somatic complaints were more likely to report depressive symptoms was consistent with previous studies on Asian American elders (Casado & Leung, 2002; Shibusawa & Mui, 2002; Stokes et al., 2002; Wu et al., 2010) and Korean immigrants (Pang, 1995, 2000). Furthermore, somatization played a partially mediating role of enhancing the effect of acculturative stress on depression in this study. The finding indicates that Korean immigrant elders’ experience of higher levels of acculturative stress was significantly associated with more somatic complaints, which, in turn, increased depressive symptoms. Such finding is consistent with Kleinman’s (1982) study that somatization was regarded as “a particular cognitive-behavioral type whose adaptive or maladaptive consequences would involve assessment of particular social and cultural as much as personal variables” (p. 130). The finding of somatization strengthening the direct effect of acculturative
stress on depression can be interpreted as “culturally sanctioned idioms of distress and psychosocial coping” (Kleinman, 1982, p. 117) among Korean immigrant elders in this study. When Korean immigrant elders experience higher levels of acculturative stress, they tend to cope with their stress and express their stress through their somatic symptoms, which may be their culturally sanctioned ways of seeking support and attention from their family members. The finding is consistent with Pang’s (2000) finding that somatization was viewed as a coping behavior among Korean immigrant elders.

This study examined the relationships among personal factors, acculturative stress, and depression before and after adding social support and somatization in the path model. In the path model with the addition of social support and somatization, the impact of personal resources such as the level of acculturation and SES on depression was reduced and became much weaker than that of coping resources such as social support and somatization. The level of acculturation no longer had a significant direct effect on depression and its effect on depression was mediated through acculturative stress, social support, and somatization. Interestingly, through the mediations, the level of acculturation had a small but still significant indirect effect on depression. On the contrary, SES had a larger indirect negative effect on depression than the level of acculturation by lowering acculturative stress and somatization and increasing the level of acculturation and social support; however, its indirect effect on depression was reduced by a fourth compared to the original one in the path model without social support and somatization. Thus, these findings indicate that the impact of those personal resources on depression were weaker than those of coping resources, when coping
resources were entered in the path model of depression. This is consistent with the finding that only acculturative stress, social support, and somatization were the significant predictors of depression in the multiple regression model including personal factors, acculturative stress, social support, somatization, and depression.

**Study Strengths**

This study has strengths in the following areas: (1) examining the understudied Korean immigrant elders; (2) enhanced cultural sensitivity; (3) use of an integrated conceptual model; (4) measures for the level of acculturation, acculturative stress, and somatization.

**Examining the understudied Korean immigrant elders.**

Due to the small number and proportion of Korean immigrant elders residing in areas without Korean ethnic enclaves, little is known about how Korean immigrant elders have experienced and coped with acculturative stress. Thus, this study is unique in exploring psychosocial and cultural aspects of acculturative stress in the Korean older population living in non-ethnic enclaves. In addition to expanding knowledge and insight on understudied and undervalued minority elders, this study identifies major sources of acculturative stress and depression and helps understand how they are related to one another.

**Enhanced cultural sensitivity.**

The principal investigator of the study is a Korean immigrant social worker who is aware of cultural differences and factors influencing the study participants. Although the principal investigator’s cultural background might have biased toward certain interpretation of the study findings, the principal investigator’s familiarity with the Korean culture helped to understand culturally unique and different meanings of those
Korean immigrant elders’ experiences in the United States. Furthermore, this study deployed the structured survey in both English and Korean, so the participants were asked to select the language they felt most comfortable. In order to do this, the recruitment letter, the questionnaire, and the reminder letter were translated into Korean. The Korean version of questionnaire was reassessed for its translation equivalence during the back-translation process (Brislin, 1970). For elders who might have problems in reading or writing, or for those to whom the concept of survey was new, the principal investigator was available to assist them individually with the self-administered survey questionnaire.

**Use of an integrated conceptual model.**

This study was guided by Lazarus and Folkman’s (1984) stress and coping theory, Aldwin’s (2007) sociocultural model of stress, coping, and adaptation, and empirical studies on the life stress model (Ensel & Lin, 1991). Thus, the conceptual model for this study was integrative in its nature, which enhances capturing the processes more than the outcomes of the relationships among personal factors, acculturative stress, coping resources, and depression among Korean immigrant elders residing in areas without Korean ethnic enclaves.

Most of the prior studies on Korean immigrant elders have used multiple regression analyses to identify the predictors of depression among Korean immigrant elders. Using path models, this study probed the process by focusing on direct and indirect effects of personal factors, acculturative stress, and coping resources on depression among Korean immigrant elders residing in areas without Korean ethnic enclaves. Thus, the path models of this study were able to explain the pathways among variables that multiple regression models might not reveal. In other words, the path
models showed direct or indirect effects of variables on depression, which might explain why some variables turned out to be predictors of depression and others did not in multiple regression models. For example, socioeconomic status among Korean immigrant elders was not a predictor of depression in a multiple regression model; however, the path models showed that socioeconomic status indirectly affected depression by playing a role in deterring acculturative stress and reducing depression. Another example shows that social support was the strongest predictor of depression in the multiple regression model and it also played a role in coping with acculturative stress in the path model. However, the path model indicated that when Korean immigrant elders experienced more acculturative stress, their acculturative stress deteriorated the strength of social support and subsequently increased depression. Thus, the path models of this study were able to show the complex processes of direct and indirect effects of variables on depression among Korean immigrant elders residing in areas without Korean ethnic enclaves.

**Measures for the level of acculturation, acculturative stress, and somatization.**

While prior studies used only stressful life events as a stressor, this study employed the Acculturative Stress Index scale that measures daily hassles as well as chronic strains. The use of the ASI scale helps capture a more accurate picture of acculturative stress process. Little attention has been paid to the distinction between the level of acculturation and acculturative stress in prior studies. This study used additional scales to measure the level of acculturation and acculturative stress, so this study examined the relationship between the level of acculturation and depression by clearly
evaluating the mediating effect of acculturative stress. Many prior empirical studies have used geriatric depression scales to measure depression; however, some of the scales do not include somatic complaints of depression. This study used an additional somatization subscale to examine whether depressive symptoms of Korean immigrant elders were expressed with somatic complaints.

**Study Limitations**

**Research design.**

This study was designed to examine the processes associated with acculturative stress and depression among Korean immigrant elders residing in areas without Korean ethnic enclaves. Thus, the conceptual model was integrated with direct and indirect pathways of variables. However, this study is based on a cross-sectional design that examines retrospective data at one point in time; therefore, it lacks the empirical validation of causality among variables. The study used path analyses and statistically controlled for alternative variables that may explain relationships. This study also formulated its conceptual model on the basis of theoretical and empirical findings. However, this study is limited in identifying the causality among the variables--direction and order of causality are not established. For example, acculturative stress was proposed to precede depression; however, depression may have caused acculturative stress. Furthermore, acculturative stress was proposed to precede social support, but social support can precede to play a role in deterring acculturative stress. Somatization was proposed to precede depression, but depression may precede somatization.

**Sampling.**

This study used non-random sampling such as convenience and snowball sampling due to a difficulty in accessing the study population directly. The majority of
the participants in this study were recruited from Korean ethnic churches due to snowball sampling; therefore, the study sample lacked those Korean immigrant elders who had no religion or believed in religions other than Christianity. In addition, the majority of the participants had higher levels of physical and cognitive functioning, which was one of the selection criteria for this study; however, use of such a sample selection criterion might have biased the sample. This study had a relatively low response rate (29%) of survey compared to other Korean immigrant studies (Oh et al., 2002; Park & Rubin, 2012); therefore, there could be a non-response bias. Non-random sampling in this study might have introduced sample selection biases; therefore, caution should be taken in generalizing the results of this study to other Korean immigrant elders residing in areas without Korean ethnic enclaves.

**Sample size.**

This study had unexpectedly a low participation rate, and one of the reasons might be related to the lack of endorsement from Korean community leaders, lack of a face-to-face distribution, and no reminder calls. As a result, the study sample size of 111 Korean immigrant elders was relatively small compared to other Korean immigrant studies (Oh et al, 2002; Park & Rubin, 2012). The sample size of this study was appropriate for exploring a population that has never been examined before; however, it was too small for some study variables to be included in statistical analysis. Due to the small sample size, this study could not ascertain whether there were any interactions among variables that affect depression, which might help examine whether resources such as social support could have a stress buffering effect. As mentioned in the data analysis section, this study used fewer than seven predictors in each multivariate analysis (including multiple regression and path analyses), which satisfied the ratio of the number of
predictors to the sample size [$n \geq 50 + 8k$ (the number of predictors)] (Mertler & Vannatta, 2005), maximized the available variance, and reduced the risk of making a Type I error. Despite the efforts of limiting the number of predictors in multivariate analyses, the sample size of this study is not large enough for a complicated path model. Kline (2005) suggests that a sample size of 200 or even much larger may be necessary for a very complicated path model. The small sample size and the use of bootstrapping in path analyses may inflate the parameter estimation, which will increase the risk of making a Type I error. Thus, caution should be taken in generalizing the findings of this study.

**Self-reported data.**

This study used a structured survey where the participants were asked to complete the self-administered questionnaire about their experiences of acculturative stress and depression. Some of the questions asked the participants to report any events associated with their stressful life events, somatization, and depression that had occurred over the past week or the past six months. Thus, the questions asking for retrospective data might not be accurate since the participants might have had difficulty recalling them. In addition, recall bias might have occurred when the participants’ current recollections of the past experiences or events might be biased by the participants’ desirability of making things more favorable than less favorable.

Self-reported data might have incurred social desirability bias as well. Even if the participants were assured of confidentiality, they might have been reluctant to report data that required personal experiences related to their financial status, family problems, and/or mental health issues. Some of the questions required perceptions regarding social support, acculturative stress, and depression. Thus, subjective interpretation of such
questions might have led to additional bias. The participants might have underestimated or overestimated their levels of acculturation, acculturative stress, physical functionality, and depression.

**Measurement.**

The principal investigator made efforts to use reliable and valid instruments to measure the study variables; however, some of the measures lacked good reliability and validity [e.g., the Instrumental Activities of Daily Living (IADL) and the Life Events Questionnaire (LEQ)] even though they have been used in numerous studies. This study used the IADL scale to measure Korean immigrant elders’ cognitive and physical functioning level more objectively. The IADL scale was selected to measure whether Korean immigrant elders’ physical and cognitive functioning was their current stressor and also associated with depression. Since one of the sample selection criteria was the independent level of cognitive and physical functioning, the IADL variable lacked variability and did not have a significant correlation with other variables. Religiosity and socioeconomic status are composite variables. They consist of a few questions that were not measured through empirical validation; therefore, their validity and reliability are not established.

All the instruments included in the questionnaire were translated into Korean and evaluated for linguistic equivalence through back translation. However, the cultural validity of the instruments for Koreans such as conceptual equivalence and psychometric equivalence (Rubin & Babbie, 2008) may be questioned. The GDS-SF instrument was used to measure depression among Korean immigrant elders. It was selected for its easy administration in a short length of time and good reliability. However, its cultural validity may be limited in measuring depression of Korean immigrant elders who have
different cultural expressions of their feelings, emotions, and thoughts related to psychiatric distress. A previous cross-cultural study (Jang et al., 2001) indicates that the GDS-SF measure lacks cross-cultural comparability and construct validity between Korean elders and American elders. Another cultural tendency in measuring acculturative stress is that Korean immigrant elders tend not to express their internal distress and emotions to outsiders; therefore, although the ASI had high reliability and validity among Korean immigrants in Toronto, Canada (Noh & Avison, 1996), the cultural validity of the measure in this study is not established.

Implications of the Findings for Social Work Practice and Policy

The unexpected finding of this study is that Korean immigrant elders reported lower levels of acculturative stress and depressive symptoms, which may suggest that these elders living outside of a Korean ethnic enclave have been well adjusted to and coped with acculturative stress. However, the finding needs to be interpreted with caution given the limitations of this study. Furthermore, the finding does not imply that Korean immigrant elders do not require culturally sensitive services and intervention strategies from social workers, health care professionals, and/or policymakers. Rather, the finding raises the need for reexamining any underlying or undercurrent issues related to acculturative stress and depressive symptoms among Korean immigrant elders.

The diagnosis of depression among the elderly may be more difficult since depression often occurs along with other serious physical illnesses such as heart disease, stroke, diabetes, cancer, and Parkinson’s disease (Mui, 1996; Mui & Shibusawa, 2008). Furthermore, the elderly often view depression as a normal part of aging and even health care providers sometimes regard depression as a normal reaction to these aging problems
Earlier studies have found that Asian American elders are at a high risk of depression and suicidal ideation, but depression among them has been unrecognized and undertreated (Casado & Leung, 2002; Mui, 2000). The problem of diagnosing depression may be more complicated among Korean elders since they view depression as a shame to their family, a personal moral failure, or an illness that naturally heals (Casado & Leung, 2002; Mui & Shibusawa, 2008; Wong et al., 2007; Yi & Tidwell, 2005).

Korean immigrant elders rarely seek mental health treatment; rather, they express their psychosomatic symptoms, including chest pain, headaches, indigestion, stomach pain, anorexia, palpitations, generalized aches and pains, and insomnia (Casado & Leung, 2002; Pang, 1995, 2000). The finding of this study also indicates that somatic symptoms of Korean immigrant elders may be manifestation of their emotional and psychological distress associated with acculturative stress. Somatic expressions of depression avoids stigma of mental illness and have more cultural acceptance; however, such expressions may also complicate the diagnosis of depression among Korean immigrant elders.

Korean immigrant elders’ expressions of somatic symptoms may be indicative of their physical problems that need to be assessed and treated. However, if physicians or health care professions are neither aware of such cultural expressions of depression among Korean immigrant elders nor sensitive to those expressions, it is more likely that the early detection of depression may be delayed and untreated depression can worsen other serious illnesses or lead to suicide (NIMH, 2007). Therefore, health care professionals dealing with Korean elderly patients should be aware and cautious that depression can be expressed somatically among Korean immigrant elders when they
assess their health care needs. This study also found that somatic expressions could be a culturally sanctioned way of coping with acculturative stress among Korean immigrant elders; therefore, health care professionals and/or social workers need to make genuine efforts to attend to and address their somatic complaints appropriately. If Korean elderly patients believe that their somatic complaints are not well attended to, then they are not likely to build trusting and therapeutic relationships with health care professionals and/or social workers. Once trusting and therapeutic relationships are built, the health care professionals and/or social workers might be able to identify and assess any unmet needs or underlying causes of acculturative stress. This leads to formulating effective treatment plans that can reduce levels of acculturative stress of Korean immigrant elders.

Prior studies indicate that even when mental health issues are diagnosed and become severe, Korean immigrant elders or their family may not seek help from mental health professionals (Casado & Leung, 2002; Mui & Shibusawa, 2008; Pang, 1995; Wong et al., 2007; Yi & Tidwell, 2005). Rather than seeking mental health treatments, Korean immigrants instead seek help from an herbal doctor, a traditional healer, or a physician (Kim et al., 2005; Mui & Shibusawa, 2008; Pang, 1995; Shin et al., 2002; Wong et al., 2007; Yi & Tidwell, 2005). Thus, interdisciplinary teams at health care settings including physicians, nurses, and social workers should be aware of and be educated on culturally different symptom expression and treatment response patterns of depression among Korean immigrant elders. Furthermore, health care professionals and social workers should be educated on protective and risk factors for acculturative stress and depression among Korean immigrant elders. As this study found, socioeconomic status, stressful life events, language difficulty, living arrangement, length of stay in the
United States, perceived satisfaction from family and friends, and somatization may be utilized in developing a screening tool for assessing their needs as well as diagnosing clinical depression among minority elders.

According to the principal components analysis, Korean immigrant elders’ perceived acculturative stress was factored into six dimensions (limited English proficiency, intergenerational problems, social discrimination, lack of opportunity for occupational mobility, a sense of marginality, social isolation). Limited English proficiency was perceived as the most stressful, and it was the strongest predictor of depression among Korean immigrant elders. The finding indicates that Korean immigrant elders with limited English proficiency experience much stress due to their inability to communicate with people in the mainstream society and get access to important information and/or services. Thus, they are more likely to feel disabled, disadvantaged, vulnerable, isolated, and insecure, which may increase their vulnerability to depression.

Prior studies have found that limited English proficiency has been challenging to health care delivery system (Kang et al., 2009; Mui et al., 2007). Since they reside in areas without Korean ethnic enclaves, Korean immigrant elders with limited English proficiency have difficulties getting access to health care or social services and having quality communication with health care professionals and/or social workers. They need to ask for an interpreter to get assistance with their medical and/or social situations. However, even with the assistance of interpreters, they may have a fear of not being well understood by health care professionals and/or social workers. In areas without Korean ethnic enclaves, many agencies may not have Korean interpreters and/or language phones
available. Thus, Korean immigrant elders often bring their adult children to health care or social service agencies as their interpreters. Even in this situation, Korean immigrant elders might feel embarrassed or experience losing face in front of their adult children, which may make Korean elders inhibit expressing their psychological distress or depressive symptoms. Thus, health care settings and formal social services should adopt programs that can provide competent lingual assistance or translation services that can help minority elders to overcome their lingual barrier. In areas without Korean ethnic enclaves, it is not feasible to have bilingual staff members for Korean immigrant elders or other immigrant elders. However, efforts should be made to increase expert interpreters, competent translation resources, or language phone services and implement quality service delivery to those minority elders with limited English proficiency. In addition, social service agencies need to provide multicultural education to social workers to increase their cultural competence, and make information on government assistance programs and community resources available in Korean online as well as in print.

Religiosity was not a strong predictor of depression in this study; however, a majority of Korean immigrant elders reported that religion was very important to their lives, and they were strongly affiliated with Korean ethnic churches. This finding indicates that despite the lack of statistical significant result, religion can play a strong role in helping elders to cope with acculturative stress and decreasing depression. Korean ethnic churches play a central role in meeting spiritual needs of Korean immigrant elders; however, especially in areas without Korean ethnic enclaves, Korean ethnic churches act like social service agencies that reinforce Korean traditional values and provide emotional and informational support to Korean immigrants. Senior citizen centers or
adult day care centers are available to the general elderly; however, due to limited English proficiency, Korean immigrant elders rarely utilize those social service agencies. For those Korean elders, Korean churches are the places where the elders can build their social networks and receive various formal and informal services. For example, Korean elders often gather in their churches to celebrate and enjoy Korean traditional holidays or customs. Korean churches also provide Korean elders with education, entertainment, and/or information (e.g., a senior school). Thus, it is important for social service providers to seek the involvement of Korean church reverends or religious leaders in building service programs for Korean immigrants residing in areas without Korean ethnic enclaves. The involvement of Korean church leaders may motivate Korean elders to participate more in various types of educational and preventive programs. In addition, social workers can utilize those meetings to educate Korean elders about acculturative stress and depression, which will raise Korean elders’ awareness on mental health issues.

Since Korean immigrant elders with limited English proficiency have not been utilizing formal social services that are accessible to the general elderly population, Korean elders expect their adult children to live with them or live in proximity to be available to provide support or meet their various needs (Mui & Kang, 2006). When Korean immigrant elders experience acculturative stress and/or mental health issues, they are more likely to seek support from their families than from others since they consider self-disclosure of mental health problems to outsiders as stigmatized (losing face) and they still maintain and cherish cultural expectations of family interdependence and filial piety from their adult children (Mui & Shibusawa, 2008; Wong et al., 2005; Yi & Tidwell, 2005).
This study found that social support from families was associated with lower levels of depression among Korean immigrant elders, but when Korean immigrant elders experienced higher levels of acculturative stress, the strength of social support might not be sufficient to alleviate the increasing levels of depression. As noted earlier, this study found that intergenerational conflicts were the second most stressful dimension of acculturative stress among Korean immigrant elders. These findings imply that intergenerational conflicts are negatively associated with social support and the negative association may lead to increased depression among Korean immigrant elders.

These findings have specific implications for aging policymakers and social workers on the relationship between social support and wellbeing of the Korean immigrant elders residing in areas without Korean ethnic enclaves. Current aging policy and social workers have placed great responsibilities of elderly caregiving on families, assuming the availability of family care and higher quality of family support over other means. However, those assumptions should be taken with great caution. Earlier studies have found that adult children’s cultural values toward filial piety and interdependence are changing (Mui, 2000) and more assistance and social support from adult children are more likely to have higher levels of depression among Asian immigrant elders (Mui, 1998; Mui & and Kang, 2006). As Thoits’ (1986) hypothesis of sociocultural similarity indicates, social support from the family is effective in reducing psychological distress when support providers and receivers share their sociocultural or situational similarity and providers show empathic understanding of stressful situations that support receivers experience. Bolger and colleagues (2000) also suggest that the most effective support might be invisible support because awareness of receiving support might entail an
emotional cost, which prohibits adjustment to stress.

Given these findings, when Korean elders with limited English proficiency and stronger Korean ethnic identity seek more assistance from the family, this might also make them feel insecure, incompetent, and burdened to their adult children, which may generate intergenerational conflicts. Thus, social workers should not simply assume that more family support would be always better to Korean elders. Social workers also need to be aware of and sensitive to intergenerational dynamics in Korean or other Asian immigrants. If Korean elders are experiencing intergenerational conflicts, social workers need to assess whether intergenerational conflicts may be related to the elders’ depression. In families with higher levels of international conflicts, social workers need to provide family counseling to help Korean elders and their children work through their different cultural values and expectations. In addition, social workers need to advise adult children that Korean elders may feel burdened, worthless, and incompetent with assistance lacking empathic understanding from adult children. In this case, social workers need to encourage adult children to show their appreciation and give their parents more opportunities to return their assistance and support to their children, which will enhance the elders’ self-esteem and dignity. Policy makers and social workers should be aware that adult children’s informal care and support are limited in meeting Korean immigrant elders’ various needs; therefore, more formal social services should be provided, and senior service providers need to develop or improve culturally sensitive programs that directly benefit elderly immigrants.

**Directions for Future Research**

This study examined the processes involved in the relationships among personal
factors, acculturative stress, coping resources, and depression of Korean immigrant elders residing in areas without Korean ethnic enclaves. Some of the variables in this study had moderate and significant relationships with acculturative stress and/or depression, which suggest the plausibility of causal directions involved in the relationships among the variables. However, the cross-sectional study is limited in explaining the processes at one point in time, so future research will need a longitudinal study design, which will help explain the processes of the relationships among the variables and determine the direction of the relationships over time.

The main purpose of this exploratory study was to understand acculturative stress and its impact on the psychological wellbeing of Korean immigrant elders residing in areas without Korean ethnic enclaves. This study collected retrospective data on Korean immigrant elders under a single geographical and cultural context, so it is limited in examining the impact of the contextual or situational factors such as the availability of ethnic enclaves on Korean immigrant elders. Thus, future research can extend the current study by including a comparison group of Korean immigrant elders residing in metropolitan cities where Korean ethnic enclaves are well established. A future study using a case-control design will help compare the difference between the two groups to examine whether the availability of Korean ethnic enclaves may be an important factor affecting Korean immigrant elders’ acculturative stress and depression.

This study recruited 111 Korean immigrant elders from limited regions in Ohio, Kentucky, and Indiana states, so the Korean immigrant elders do not represent all Korean immigrant elders residing in areas without Korean ethnic enclaves. Thus, future research should increase the sample size from other geographical regions without Korean ethnic
enclaves, which will help sampling and increase generalizability. In addition, a majority of the participants in this study were affiliated with Korean ethnic churches. Thus, future research should include more Korean immigrant elders with no religious affiliation or different religion affiliation to increase variability and covariance among variables, and permit better causal detections.

This study is a quantitative study that focuses on exploring Korean immigrant elders’ experiences associated with acculturation. The quantitative study helps identifying predictors of acculturative stress and depression and strong associations between those variables; therefore, it may help finding interventions to prevent depression. However, it is limited in finding the meaning of Korean immigrant elders’ experiences associated with their immigration and acculturation. Thus, future research should combine qualitative research with a quantitative approach. Qualitative research allows for exploring more in-depth experiences among Korean immigrant elders and enriching the quantitative study findings with more nuances and details. For example, a focus group study might help to identify problems or issues associated with their acculturative stress, which may not have emerged in the structured survey because the principal investigator might not have anticipated all of the issues.

This study used measures that are typically used for the general American populations. Future research should use more cross-culturally valid and reliable measures so that those measures can capture Korean immigrant elders’ cultural meaning and attitudes toward their acculturative stress and depression. One of the unexpected findings in this study was that Korean immigrant elders did not express higher levels of acculturative stress and depression. One of the possible reasons for lower levels of
acculturative stress and depression may be that given their minority immigrant status, Korean elders tend to hold perseverance and passive acquiescence as their cultural virtues. Such cultural attitudes and behaviors may have been their psychological makeup that inhibited acculturative stress or depression. Cultural bias may influence Korean immigrant elders’ responses to items in the questionnaire since Asians tend not to express their emotions and thoughts in a strongly positive way (Noh & Avison, 1996). For example, when they were asked to choose responses to each item of the ASI ranging from 1 (never) to 4 (very often), Korean immigrant elders had a tendency to select lower levels of responses. Even if they experienced stressfulness very often, they tended to select 2 (somewhat) rather than 3 (often) or 4 (very often), which may be influenced by their cultural attitudes and beliefs along the lines of Chinese Confucian’s virtue of modesty.

Thus, future research could include instruments that can measure such cultural psychological attitudes and behaviors.

This study focuses on exploring the experiences of Korean immigrant elders. Thus, it was not aimed to identify any intervention for relieving any distress or stress from the participants. This study indicates that Korean immigrant elders appeared to be well adjusted to the mainstream society; however, the study findings indicate that limited English proficiency and intergenerational conflicts are major aspects of acculturative stress and they are significant predictors of depression. If their acculturative stress is not well resolved or dissipated, their relationships with family members may be negatively affected. Due to the lack of community resources and services in areas without Korean ethnic enclaves, family might be more pressured to take responsibility for informal care of their Korean immigrant elders, which may exacerbate their undercurrent
intergenerational conflicts. Thus, future research should include the younger generation and adult children and focus on assessing the needs of Korean immigrant elders as well as adult children and finding interventions for their issues or problems associated with their acculturative stress and depression.

**Conclusion**

While most studies of depression among Korean immigrant elders were conducted in metropolitan cities and attempted to identify predictors of depression, this study examined the processes of the relationships among personal factors, acculturative stress, coping resources, and depression of Korean immigrant elders residing in areas without Korean ethnic enclaves. This study used the integrated models including multiple regression and path models to identify predictors of acculturative stress and depression as well as to examine the complex processes of the relationships among variables. The study examined the mediating effect of acculturative stress on the relationship between the level of acculturation and depression and found a partial mediating role of acculturative stress. The results indicate that the level of acculturation directly reduced Korean immigrant elders’ depression, but it also indirectly reduced depression by weakening the impact of acculturative stress on depression. This study also examined the mediating effect of coping resources such as social support and somatization on the relationship between acculturative stress and depression and found a partial mediating role of coping resources. The results indicate that acculturative stress directly increased Korean immigrant elders’ depression, but it also indirectly increased their depression by weakening the negative impact of social support and strengthening the positive impact of somatization. Thus, Korean immigrant elders were less likely to
report depressive symptoms when they had stronger social support and less somatization; however, when they experienced higher levels of acculturative stress, their experience was likely to deteriorate the strength of social support and increase somatic complaints. These findings indicate the importance of assessing personal and coping resources and the harmful effect of acculturative stress on depression among Korean immigrant elders residing in areas without Korean ethnic enclaves.

There are further implications for social work practice and policy. The nature of this exploratory study is limited in assessing and implementing practical interventions for those Korean immigrant elders residing in areas without Korean ethnic enclaves. Additional research is needed to further our understanding of the inherent problems and stress associated with acculturation among immigrant elders lacking ethnic community resources, and more attention is required to promote and implement interventions through which the impact of acculturative stress can be minimized. More attention for culturally competent practice among social workers and health care professionals is required to assess lingual and cultural barriers that immigrant minority elders may experience on a daily basis. Further implications for aging policy is to reexamine the current aging policy that places great responsibilities of elderly caregiving on the family, modify the paucity of social services for the minority elderly, especially Korean elderly immigrants residing in areas without Korean ethnic enclaves, and enhance the quality of formal care and service delivery system to meet the needs of minority elders experiencing lingual and cultural barriers.

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Appendix A: Socio-demographic Questionnaire

1. Your present American age: __________________________ years old

2. Your gender: □ 0 = Female □ 1 = Male

3. Your marital status: □ 0 = Other (Single, Widowed, Divorced, Separated) □ 1 = Married

4. Your living arrangement (Check One):
   □ 0 = Living Alone □ 1 = Living with Spouse Only
   □ 2 = Living with Spouse and Children □ 3 = Living with Children Only
   □ 4 = Living with Others

5. Employment (Check One): □ 0 = Unemployed □ 1 = Employed

6. Your Own Annual Income (Not Family Income) (Check One):
   □ 0 = Under $10,000 □ 1 = $10,000 -- $19,999
   □ 2 = $20,000 -- $39,999 □ 3 = $40,000 and over

7. Your Education (Check One):
   □ 0 = High School Graduate or Less □ 1 = College Graduate or More

8. Your Length of Residence in the United States (Check One):
   □ 0 = Less than 5 Years □ 1 = Between 5 and 10 years
   □ 2 = Between 11 and 20 years □ 3 = More than 21 years

9. How often do you attend church? (Check One):
   □ 0 = Never □ 1 = Once or Twice a Year
   □ 2 = Once Every 2 or 3 Months □ 3 = Once a Month
   □ 4 = Two or Three Times a Month □ 5 = Once a Week or More

10. How important does religion have upon your life? (Check One):
    □ 0 = Not at all Important □ 1 = Important □ 0 = Very Important
## Appendix B: The Lawton Instrumental Activities of Daily Living Scale

### Ability to Use Telephone
1. Operates telephone on own initiative; looks up and dials numbers...........................................1
2. Dials a few well-known numbers.................................................................................................1
3. Answers telephone, but does not dial............................................................................................1
4. Does not use telephone at all...........................................................................................................0

### Shopping
1. Takes care of all shopping needs independently ..................................................................................1
2. Shops independently for small purchases................................................................----------------------0
3. Needs to be accompanied on any shopping trip ..............................................................................0
4. Completely unable to shop..............................................................................................................0

### Food Preparation
1. Plans, prepares, and serves adequate meals independently ..............................................................1
2. Prepares adequate meals if supplied with ingredients ......................................................................0
3. Heats and serves prepared meals or prepares meals but does not maintain adequate diet..............0
4. Needs to have meals prepared and served.......................................................................................0

### Housekeeping
1. Maintains house alone with occasion assistance (heavy work)..............................................................1
2. Performs light daily tasks such as dishwashing, bed making.............................................................1
3. Performs light daily tasks, but cannot maintain acceptable level of cleanliness ..........................1
4. Needs help with all home maintenance tasks..................................................................................1
5. Does not participate in any housekeeping tasks................................................................................0

### Laundry
1. Does personal laundry completely ......................................................................................................1
2. Launders small items, rinse socks, stockings, etc.............................................................................1
3. All laundry must be done by others..................................................................................................0

### Mode of Transportation
1. Travels independently on public transportation or drives own car.................................................1
2. Arranges own travel via taxi, but does not otherwise use public transportation ..........................1
3. Travels on public transportation when assisted or accompanied by another ..................................1
4. Travel limited to taxi or automobile with assistance of another.....................................................0
5. Does not travel at all .........................................................................................................................0

### Responsibility for Own Medications
1. Is responsible for taking medication in correct dosages at correct time......................................1
2. Takes responsibility if medication is prepared in advance in separate dosages ......................0
3. Is not capable of dispensing own medication ..................................................................................0

### Ability to Handle Finances
1. Manages financial matters independently (budgets, writes checks, pays rent and bills,
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1. Goes to bank; collects and keeps track of income
2. Manages day-to-day purchases, but needs help with banking, major purchases, etc.
3. Incapable of handling money

Scoring: For each category, circle the item description that most closely resembles the client’s highest functional level (either 0 or 1).


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Appendix C: Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA)

Instructions: The questions that follow are for the purpose of collecting information about your historical background as well as more recent behaviors that may be related to your cultural identity. Choose the one answer that best describes you.

1. What language can you speak?
   1. Asian only (e.g., Chinese, Japanese, Korean, Vietnamese, etc.).
   2. Mostly Asian, some English.
   3. Asian and English about equally well (bilingual).
   4. Mostly English, some Asian.
   5. Only English.

2. What language do you prefer?
   1. Asian only (e.g., Chinese, Japanese, Korean, Vietnamese, etc.).
   2. Mostly Asian, some English.
   3. Asian and English about equally well (bilingual).
   4. Mostly English, some Asian.
   5. Only English.

3. How do you identify yourself?
   1. Oriental
   2. Asian
   3. Asian American
   4. Chinese American, Japanese American, Korean American, etc.
   5. American

4. Which identification does (did) your mother use?
   1. Oriental
   2. Asian
   3. Asian American
   4. Chinese American, Japanese American, Korean American, etc.
   5. American

5. Which identification does (did) your father use?
   1. Oriental
   2. Asian
   3. Asian American
   4. Chinese American, Japanese American, Korean American, etc.
   5. American

6. What was the ethnic origin of the friends and peers you had, as a child up to age 6?
   1. Almost exclusively Asians, Asian Americans, Orientals.
   3. About equally Asian groups and Anglo groups.
4. Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
5. Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.

7. What was the ethnic origin of the friends and peers you had, as a child from age 6 to 18?
   1. Almost exclusively Asians, Asian Americans, Orientals.
   3. About equally Asian groups and Anglo groups.
   4. Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
   5. Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.

8. Whom do you now associate within the community?
   1. Almost exclusively Asians, Asian Americans, Orientals.
   3. About equally Asian groups and Anglo groups.
   4. Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
   5. Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.

9. If you could pick, whom would you prefer to associate with in the community?
   1. Almost exclusively Asians, Asian Americans, Orientals.
   3. About equally Asian groups and Anglo groups.
   4. Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
   5. Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.

10. What is your music preference?
    1. Only Asian music (e.g., Chinese, Japanese, Korean, Vietnamese)
    2. Mostly Asian
    3. Equally Asian and English
    4. Mostly English
    5. English only

11. What is your movie preference?
    1. Asian-language movies only
    2. Asian-language movies mostly
    3. Equally Asian and English English-language movies
    4. Mostly English-language movies only
    5. English-language movies only

12. What generation are you? (circle the generation that best applies to you:)

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1. First generation = I was born in Asia or country other than the United States
2. Second generation = I was born in the United States, either parent was born in Asia or country other than the United States
3. Third generation = I was born in the United States, both parents were born in the United States, and all grandparents born in Asia or country other than the United States
4. Fourth generation = I was born in the United States, both parents were born in the United States, and at least one grandparent born in Asia or country other than the United States and one grandparent born in the United States
5. Fifth generation = I was born in the United States, both parents were born in the United States, and all grandparents also born in the United States
6. Don’t know what generation best fits since I lack some information.

13. Where were you raised?
   1. In Asia only
   2. Mostly in Asia, some in the United States
   3. Equally in Asia and the United States
   4. Mostly in the United States, some in Asia
   5. In the United States only

14. What contact have you had with Asia?
   1. Raised 1 year or more in Asia
   2. Lived for less than 1 year in Asia
   3. Occasional visits to Asia
   4. Occasional communications (letters, phone calls, etc.) with people in Asia
   5. No exposure or communications with people in Asia

15. What is your food preference at home?
   1. Exclusively Asian food
   2. Mostly Asian food, some American
   3. About equally Asian and American
   4. Mostly American food
   5. Exclusively American food

16. What is your food preference in restaurants?
   1. Exclusively Asian food
   2. Mostly Asian food, some American
   3. About equally Asian and American
   4. Mostly American food
   5. Exclusively American food

17. Do you
   1. read only an Asian language;
2. read an Asian language better than English;
3. read both Asian and English equally well;
4. read English better than an Asian language; and
5. read only English.

18. Do you
1. write only an Asian language;
2. write an Asian language better than English;
3. write both Asian and English equally well;
4. write English better than an Asian language; and
5. write only English.

19. If you consider yourself a member of the Asian group (Oriental, Asian, Asian American, Chinese American, etc., whatever term you prefer), how much pride do you have in this group?

1. Extremely proud
2. Moderately proud
3. Little proud
4. No pride but do not feel negative toward group
5. No pride but do feel negative toward group

20. How would you rate yourself?
1. Very Asian
2. Mostly Asian
3. Bicultural
4. Mostly Westernized
5. Very Westernized

21. Do you participate in Asian occasions, holidays, traditions, etc.?
1. Nearly all
2. Most of them
3. Some of them
4. A few of them
5. None at all

Appendix D: Life Events Questionnaire (LEQ)

Have any of the following life events or problems happened to you during the last 6 months? Please check the box or boxes corresponding to the month or months in which any event happened or began.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>You yourself suffered a serious illness, injury, or an assault.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>A serious illness, injury, or assault happened to a close relative.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Your parent, child, or spouse died.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>A close family friend or another relative (aunt, cousin, grandparent) died.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>You had a separation due to marital difficulties.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>You broke off a steady relationship.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>You had a serious problem with a close friend, neighbor, or relative.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>You became unemployed or you were seeking work unsuccessfully for more than one month.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>You were sacked from your job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>You had a major financial crisis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>You had problems with the police and a court appearance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Something you valued was lost or stolen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix E: Acculturative Stress Index (ASI)

The following are some of the difficulties immigrants experience during their life in the U. S. Please circle one response category that best describes your experience.

<table>
<thead>
<tr>
<th>I feel that living in America is stressful because</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I lack the opportunity to visit Korea.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2 I am living away from my family, relatives, and friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3 I am unable to do the things I used to enjoy when I was in Korea.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4 I am not able to find someone I can confide in.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5 I do not have good and/or close friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6 I am mistreated by other (Koreans).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7 I have a job that is below my experience and qualification.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8 The job experience I had in Korea is not recognized in the U.S.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9 My education in Korea is not recognized at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10 I am unable to find adequate social support or social group in the U.S.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11 Others discriminate against me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12 I am treated as an alien by Americans.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13 I do not understand the school or educational system here in the U.S.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14 I have few, if any, opportunities to participate in American politics.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15 I am constantly reminded by others of my minority status.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16 I feel helpless to make political decisions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17 I have few, if any, opportunities to earn more income.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18 I am disappointed that my standard of living is not what I had hoped for when I first came to the U.S.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19 I am not able to have time, or have money for a vacation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20 I feel that my relationship with my adult children would be better off if we were living in Korea.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21 I worry about the future of my children.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22 I feel anxious that my children will not</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
I respect my spouse and I as parents.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>I worry about my family members losing cohesion with each other, and I would not have to worry about this problem if I lived in Korea.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24</td>
<td>I frequently conflict with my adult children after coming to the U. S.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25</td>
<td>I feel that the relationship between myself and adult children and their spouses has gotten worse since I have come to the U. S.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

How often do you experience difficulties in the following areas because of your ability to speak and understand English? Please circle the appropriate response.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>I talk to children</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27</td>
<td>I am at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28</td>
<td>I read a newspaper/magazine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29</td>
<td>I try to understand official documents (i.e., tax form)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30</td>
<td>I go shopping (i.e., when talking to a sales clerk)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31</td>
<td>I try to understand the TV/radio</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Appendix F: Provision of Social Relations (PSR)

We would like to know something about your relationships with other people. Please read each statement below and decide how well the statement describes you. For each statement, show your answer by indicating to the left of the item the number that best describes how you feel. The numbers represent the following answers.

1 = Very much like me
2 = Much like me
3 = Somewhat like me
4 = Not very much like me
5 = Not at all like me

__ 1. When I’m with my friends, I feel completely able to relax and be myself.
__ 2. I share the same approach to life that many of my friends do.
__ 3. People who know me trust me and respect me.
__ 4. No matter what happens, I know that my family will always be there for me should I need them.
__ 5. When I want to go out to do things I know that many of my friends would enjoy doing these things with me.
__ 6. I have at least one friend I could tell anything to.
__ 7. Sometimes I’m not sure if I can completely rely on my family.
__ 8. People who know me think I am good at what I do.
__ 9. I feel very close to some of my friends.
__ 10. People in my family have confidence in me.
__ 11. My family lets me know they think I am a worthwhile person.
__ 12. People in my family provide me with help in finding solutions to my problems.
__ 13. My friends would take the time to talk over my problems, should I ever want to.
__ 14. I know my family will always stand by me.
__ 15. Even when I am with my friends I feel alone.

Appendix G: Geriatric Depression Scale—Short Form (GDS-SF)

Choose the best answer for how you have felt over the past week:

1. Are you basically satisfied with your life? YES/ NO
2. Have you dropped many of your activities and interests? YES/ NO
3. Do you feel that your life is empty? YES/ NO
4. Do you often get bored? YES/ NO
5. Are you in good spirits most of the time? YES/ NO
6. Are you afraid that something bad is going to happen to you? YES/ NO
7. Do you feel happy most of the time? YES/ NO
8. Do you often feel helpless? YES/ NO
9. Do you prefer to stay at home, rather than going out and doing things? YES/ NO
10. Do you feel that you have more problems with memory than most? YES/ NO
11. Do you think it is wonderful to be alive now? YES/ NO
12. Do you feel worthless the way you are now? YES/ NO
13. Do you feel full of energy? YES/ NO
14. Do you feel that your situation is hopeless? YES/ NO
15. Do you think that most people are better off than you are? YES/ NO

Appendix H: Somatization Subscale of the Symptom Checklist-90 (SCL-90)

The following are questions about your feeling, thoughts, and experiences during the past week. Please choose one response that reflects on how often you felt this way and circle the appropriate response.

0 = I have not experienced it at all during the past week.  
1 = I have experienced it mildly.  
2 = I have experienced it moderately.  
3 = I have experienced it pretty severely.  
4 = I have experienced it extremely severely.

1. Headache
2. Faintness or dizziness
3. Pains in heart or chest
4. Pains in lower back
5. Nausea or upset stomach
6. Soreness of muscles
7. Trouble getting your breath
8. Hot or cold spells
9. Numbness or tingling in parts of your body
10. Lump in your throat
11. Feeling weak in parts of your body
12. Heavy feeling in your arms or legs

Appendix I: IRB Approval Letter

Initial Review

Approval Ends September 20, 2013
IRB Number 12-0758-F4S

TO: Stephanie Rhee
Social Work
4055 Lenox Dr.
Cincinnati, OH 45245
(513) 584-0241

FROM: Chairperson/Vice Chairperson
Non-medical Institutional Review Board (IRB)

SUBJECT: Approval of Protocol Number 12-0758-F4S

DATE: October 9, 2012

On October 7, 2012, the Non-medical Institutional Review Board approved minor revisions requested at the convened meeting on September 21, 2012 for your protocol entitled:

Acculturative Experiences among Korean Immigrant Elders Residing in Non-Korean Ethnic Enclaves

Approval is effective from September 21, 2012 until September 20, 2013 and extends to any consent/assent form, cover letter, and/or phone script. If applicable, attached is the IRB approved consent/assent document(s) to be used when enrolling subjects. Note, subjects can only be enrolled using consent/assent forms which have a valid “IRB Approval” stamp unless special waiver has been obtained from the IRB. Prior to the end of this period, you will be sent a Continuation Review Report Form which must be completed and returned to the Office of Research Integrity so that the protocol can be reviewed and approved for the next period.

In implementing the research activities, you are responsible for complying with IRB decisions, conditions and requirements. The research procedures should be implemented as approved in the IRB protocol. It is the principal investigator’s responsibility to ensure any changes planned for the research are submitted for review and approval by the IRB prior to implementation. Protocol changes made without prior IRB approval to eliminate apparent hazards to the subject(s) should be reported in writing immediately to the IRB. Furthermore, discontinuing a study or completion of a study is considered a change in the protocol’s status and therefore the IRB should be promptly notified in writing.

For information describing investigator responsibilities after IRB approval has been obtained, download and read the document “PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research” from the Office of Research Integrity’s Guidance/Policy Documents web page [http://www.research.uky.edu/ori/human/guidance.html#PIreq]. Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORS web site [http://www.research.uky.edu/ors/]. If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at (859) 257-9428.

[Signature]
Chairperson/Vice Chairperson

UK
University of Kentucky

Office of Research Integrity
IRB, IACUC, RDRC
313 Kinkead Hall
Lexington, KY 40506-0057
859 257-9428
fax 859 257-8995
www.research.uky.edu/ori

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Appendix J: Recruitment Letter/Informed Consent Form in English

WRITTEN CONSENT FORM FOR QUESTIONNAIRE
“Acculturative Experience among Korean Immigrant Elders Residing in Non-Korean Ethnic Enclaves”

You are invited to participate in a study about Korean immigrant elders. You are asked to participate in this study because you are a first-generation Korean immigrant elder aged 60 and older, physically and cognitively able to participate in this study, and currently reside in Cincinnati, Lexington, or surrounding areas. If you volunteer to participate in this study, you will be one of approximately 120 people to do so.

The principal investigator is Stephanie Hwang, a doctoral student at the University of Kentucky Department of Social Work in Lexington, KY. I am supervised by my faculty advisor, David Royse, Ph. D. I am conducting an independent study and the results will be used for my dissertation research. The purpose of this study is to explore the stress Korean immigrant elders may experience related to immigration when they reside in a city without any Koreatown communities. By doing the study, we hope to gain insight and knowledge about how Korean immigrant elders living in a city without Koreatown use their resources to cope with stress related to living in a different country.

You will be asked to complete the survey questionnaire that includes questions about your socio-demographic information, your daily activities, your stress and experiences related to immigration, your social relations, and your recent moods and feelings. It may take at least 30 minutes to complete the survey at home in private; however, you do not have to complete the survey all at once. You can take a few days to complete the survey at home. Instead of taking the mail survey, if you want, you may choose to do a phone or a face-to-face interview with me at your preferred setting. Whether you choose to do a mail survey, a phone survey, or a face-to-face interview, you can indicate your choice in the attached form.

If you participate in this study, you will receive a $15 gift certificate. But there are no other benefits from your participation in the study. However, you may have, at minimum, a chance to learn more about how stressful your immigration experiences have been and how well you have been coping with such stress. Your participation in the study will be helpful in better understanding the immigration experience of Korean elders, which in turn may help us to know how to help other Korean immigrant elders in the future.

To the best of my knowledge, the questions that you will be answering have no more risk of harm than you would experience in everyday life. However, if you ever feel uncomfortable during the study, you are free to withdraw and discontinue participation at any time. If you ever feel upset or uncomfortable during the study, you can also contact me by phone or in person if you need assistance. I am a clinical social worker and will keep your contact confidential.
Confidentiality is very important to us, and your name, address, or phone number will never be used or reported in the study. In other words, your name and all identifying information from your survey will remain absolutely confidential and will never be used in any future report. Your individual survey will be aggregated with all the others in the study. We will keep private all research records that identify you to the extent allowed by law. However, there are some circumstances in which we may have to show your information to other people. For example, in cases where there is abuse or neglect, or where someone poses a danger to self or others, we may have to share that information with proper authorities. Also, we may be required to show information which could identify you to people who need to be sure that the research was done correctly; these would be people from such organizations as the University of Kentucky.

If you agree to participate in the study, please sign and print your name and date at the end of the form. You will choose one of the three options for your method of participation and return this form in the enclosed postage-paid envelope. Then you will receive the survey questionnaire by mail; otherwise, you may answer the survey by phone or in person.

If you choose a survey by mail, you will receive the questionnaire with enclosed postage-paid envelope and postcard. You will be asked to return your completed questionnaire in the enclosed postage-paid envelope to me, which will keep your information confidential. Please return the enclosed postage-paid post card separately. Once your postcard and questionnaire have been received, I will send a $15 Kroger card to you by separate mail. There are no costs associated with taking part in the study. For example, you do not have to pay for the cost of mailing any materials related to the survey. If you choose a phone survey, you will receive a $15 Kroger card by separate mail. If you choose a survey in person, you will receive a $15 Kroger card in person. Even if you choose a survey by phone or in person, confidentiality will be kept.

Thank you very much for your cooperation. You can contact me at 513-319-1921 and Dr. Royse at 859-257-6659 with any questions or comments related to this study. You can also contact the University of Kentucky Office of Research Integrity at 1-859-257-9428 or toll free at 1-866-400-9428 if you have questions or concerns about this study.

I have read the above study description and agree that it has been satisfactorily explained to me. I understand that if I agree to participate in this study, I am giving my voluntary consent to answer a set of questions related to immigration experiences. I understand that it is my choice whether or not to participate in this study. I understand that my data will remain confidential in any future publication resulting from this study.

Signature of person agreeing to take part in the study                                      Date

Print name of person agreeing to take part in the study
Please choose one of three options written below, if you agree to take part in the study.

________ Yes, I would like to receive the survey questionnaire by mail since I will be able to complete the survey at home in private.

________ Yes, I would like to complete the survey questionnaire by phone.

You can call me at #__________

between 10:00 a.m. and 3:00 p.m. on any weekdays or weekends or

any preferred date and time _____month _____day _______ time.

________ Yes, I would like to complete the survey questionnaire by face-to-face interview.

You can meet me at my home.

Address:

Your preferred date and time _____month _____day _______ time

Or, you can meet me at a different place:

Your preferred place: ________________________________

Please indicate here whether you like to receive Korean version or English version of questionnaire.

________ Korean version or _____________ English version

Thank you very much!
Researcher obtaining informed consent  Stephanie Rhee  Date:
Appendix K: Recruitment Letter/Informed Consent Form in Korean

실문지 참여 동의서

“코리아타운이 없는 곳에 사는 한인 어른들의 이민 생활 경험이며

한국에서 이민오신 어른들의 관련 연구에 참여하여 주심사 여러분을 초대합니다. 여러분이 이 연구에 참여하여 주심사 요청하는 이유는 여러분이 일제에 미국 이민자로 연세가 유익설 이성되며, 연구 설문지에 응답하실 만큼 신체적으로 아직 불편하신지 않으시고, 사고 능력에도 이상이 없으시며, 현재 시세보리(Cincinnati) 나 태광신 (Lexington), 또는 그 주변 도시들 자택구역에 사시고 계시는 분들로, 이 연구에 참여하실 자격이 되신다고 믿기 때문입니다. 여러분이 이 연구에 참여하고자 자선하시면, 여러분은 이 연구에 필요한 약 120 명당층의 한분이 되십니다.

저는 이 연구를 주도한 Stephanie Rhee 입니다. 저는 캠퍼스 베이징 (Lexington, KY)에 있는 캠퍼스 대학교 (University of Kentucky) 사회 사업학과 (Social Work Department) 박사과정에 있으며, 박사 대학 교사 (David Rosay) 교수님의 제도를 받고 있습니다. 이 연구는 제가 능적으로 하는 연구이며, 이 연구 결과는 저희 박사논문을 위해 쓰일 계획입니다. 이 연구 목적은 한국에서 이민오신 여러분들이 소위 코리아타운이 없는 도시들에 사시면서 어떤 스트레스를 겪어오셨는지 그리고 여러분이 그 이민생활로 인한 스트레스를 어떻게 대처해 오셨는지 알아보고 자 합니다.

여러분께 완성해 주심사 요청하는 이 연구 설문지에는 여러분의 개인 사회적 배경, 일상 활동들, 여러분의 이민과 연결된 스트레스와 경험들, 여러분의 사회 인간 관계들, 그리고 여러분의 최근 기분과 감정들에 관한 질문들이 실려있습니다. 설문지에 답해서 혼자 완성하시는데 약 30 분 정도가 걸릴수 있습니다. 하지만 설문지에 한번에 다 완성할 필요는 없습니다. 여러분이 설문지를 완성하는 데 도움이 필요하신다면 제가 전화로나 여러분이 원하시는 장소에서 개인적으로 꼭 도와드릴 수 있습니다. 여러분이 설문지를 완성하는 데 도움이 필요하신다면 제가 전화로나 여러분이 원하시는 장소에서 개인적으로 꼭 도와드릴 수 있습니다. 여러분이 혼자 설문지를 완성하실지, 아니면 전화나 면접으로 도움이 필요하신지, 이 질문에 답해있는 응답에 여러분의 선택을 표시하여 주시면 됩니다.

여러분이 이 연구에 참여하시면서 15부에 상당하는 사례를 받으시지만, 여러분의 연구 참여로 인한 다른 혼란은 없습니다. 하지만 이 연구를 통해 최소한 여러분이 살아오신 이민 생활 그리고 그 혼란 생활을 어떻게 대처해 오셨는지 돌아보실 수 있는 기회를 드릴 수도 있습니다. 또한 여러분이 이 연구에 참여하시면, 여러분의 이민 경험에 관한 이 연구가 앞으로 다른 한국 이민 어른들의 이민 경험을 더 잘 이해하는 데 귀중한 보탬이 되리라 믿습니다.

제가 아닌 설문지에 있는 질문들은 여러분이 일상생활에서 경험하는 것에 이상의 해로움을 담당하시는 데 실패 없습니다. 하지만, 여러분이 이 설문지를 질문들로 인해 불편함을 느끼시면, 여러분은 언제든지 진로를 철저히 하고 이 연구에 불편하실 수 있습니다. 만약 여러분이 이 연구 설문지 질문들로 인해 혹 실반한 기분이나 불편함을 느끼시면 도움이
필요하시다면, 사회복지사(social worker)인 제가 전화로나 직접 만나서 상담을 해 드릴 수도 있습니다. 하지만, 여러분의 연락이나 상담내용은 절대 다른 사람들에게 비밀이니, 안심하시고 연락하셔도 됩니다.

비밀보호는 우리 모두에게 매우 중요합니다. 여러분 개인의 이름이나 주소, 전화번호 정보는 이 논문이나 연구 보고서에 잘못 사용되지 않을 것입니다. 다시말해, 여러분의 이름이나 여러분 개인을 알아볼 수도 있다고 생각되는 정보는 비밀로 남을 것이며, 논문이나 연구 보고서에 전혀 실리지 않습니다. 여러분 한 분의 답안은 다른 분들의 답들과 혼합되어서 연구결과에 쓰여지게 될 것입니다. 저희는 법이 허락하는 한 여러분에 관한 모든 연구기록을 비밀로 지키겠습니다. 하지만, 여러분의 정보를 다른 사람들에게 보여주어야 하는 몇몇 경우가 있습니다. 예를 들어, 학대나 태만이 일어나는 경우, 또는 자신이나 다른이들을 해 해려는 사람이 있는 경우에는, 저희는 적절한 기관들에 정보를 함께 나누어야 할 수도 있습니다. 또한, 옵마트 연구가 이루어지지 않도록 하려는 캔터키 대학 연구소 사람들에게 저희가 여러분에 관한 정보를 보여주어야 할 수도 있습니다.

여러분이 이 연구에 자발적으로 참여하시는게 결정 하시면, 이 동의서 아래에 있는 서명, 이름, 그리고 날짜를 기입하여 주십시오. 다음 페이지에 있는 세가지 선택사항 중 하나를 클라주십시오. 이 선택에 등록된 분들에 대해 보내주십시오. 그러면 원하시는 분께 제가 설문지를 여러분께 우편으로 보내 드리겠습니다. 아니면, 전화로 설문지에 답하시거나, 직접 만나 설문지를 완성할 수도 있습니다.

여러분이 우편 설문지를 완성하시는 경우, 설문지와 함께 우편 요금 지불된 봉투와 엽서도 받아실 길입니다. 여러분이 완성하신 설문지를 동봉된 우편 요금 지불된 봉투에 넣어 보내주십시오. 여러분의 설문지 답안이 두 가지의 것인가 비밀로 남을 수도 있습니다. 동봉된 엽서는 저에게 보내주세요. 제가 설문지와 엽서를 받아서 15 주에 상당하는 크로거(Kroger) 카드를 보내드리겠습니다. 여러분은 이 설문지에 관련된 우편물에 적절하게 경비를 둘일 필요가 없습니다. 여러분이 전화로 설문지를 완성하시는 경우, 제가 15 주에 상당하는 크로거 카드를 봉으로 부리 드리겠습니다. 여러분이 직접 만나 설문지를 완성할 경우, 제가 직접 크로거 카드를 드리겠습니다. 여러분이 전화나 면담을 이용하여 설문지를 완성하는 경우에도, 여러분의 전화내용이나 인터뷰 내용은 비밀이 보장됩니다.

여러분의 협조에 정말 감사드립니다. 이 연구에 관한 어떤 문제나 의문이 있으면, 513-319-1921로 제게 연락 주시거나 제 저자교수 Dr. Roys를 859-257-6659로 연락주십시오. 여러분이 이 연구에 질문이나 걱정이 있으시면 캔터키 대학 연구소(University of Kentucky Office of Research Integrity)를 859-257-9428이나 866-400-9428로 연락주세요.

나는 위에 적힌 이 연구에 관한 사람들들을 읽고, 반복적으로 설문이 되었다고 동의합니다. 내가 이 연구에 참여한다고 동의한다는 것은 내가 이번 생활 경험에 관한 질문에 질문들에 자발적으로 답한다고 동의한다는 것을 잘 이해합니다. 이 연구에 참여하는 것에 대한 그것은 나의 선택이라는 것을 잘 이해합니다. 나에 관한 정보는 이 논문이나 미래 연구 발표에 결코로 비밀로 남는다는 것을 나는 잘 이해합니다.

서명을 해주세요 __________________________ 날짜: __________

이름을 쓰 주세요 __________________________
이 연구에 참여하시기로 동의하시면 아래 세 가지 중 하나를 선택해 주시십시오.

전화로 연락하시면 안정한 환경에서 답할 수 있으니 우편으로 보내주십시오.

한국어로 된 설문지 아니면 영어로 된 설문지를 받고 싶으신지 이곳에 표시해 주세요.

한국어 설문지 아니면 영어 설문지
Appendix L: IRB Modification Approval Letter

TO: Stephanie Rhee  
Social Work  
4055 Leuven Dr.  
Cincinnati, OH 45245  
PI phone #: (513)584-0241

FROM: Chairperson/Vice Chairperson  
Institutional Review Board (IRB)

SUBJECT: Approval of Modification Request for Protocol 12-0758-F4S

DATE: January 28, 2013

On January 28, 2013, the Institutional Review Board approved your request for modifications in your protocol entitled:

Acculturative Experiences among Korean Immigrant Elders Residing in Non-Korean Ethnic Enclaves

If your modification request necessitated a change in your approved informed consent/assent form(s), attached is the new IRB approved consent/assent form(s) to be used when enrolling subjects. [Note, subjects can only be enrolled using informed consent/assent forms which have a valid “IRB Approval” stamp, unless waiver from this requirement was granted by the IRB.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" from the Office of Research Integrity's Guidance and Policy Documents web page [http://www.research.uky.edu/ori/human/guidance.html#PRespp]. Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI's web site [http://www.research.uky.edu/ori]. If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at (859) 257-9428.

Chairperson/Vice Chairperson

[Signature]

1
Appendix M: Reminder Letter in English

Date: / /2013

Dear Korean senior citizens,

Hello! I am a doctoral student who recently sent you a letter inviting you to participate in a study about Korean immigrant elders residing in areas without any Koreatown communities. So far, a good number of Korean elders have participated in the survey; however, in order to complete the research, I need at least 40 additional participants in the study. So, please excuse this additional request to participate in the study, but your participation is essential in completing the study about Korean elders and contributing to the betterment of Korean society in the United States. In case you did not keep the earlier letter that I sent you, I am enclosing another recruitment letter/consent form in Korean. If you read the letter and agree to participate in the study, please sign and print your name and date at the end of the letter and return it to me in the enclosed postage-paid envelope. You will then receive the survey questionnaire by mail. If you need a letter in English, please indicate it in your correspondence, and I will send them to you soon. Your cooperation is greatly appreciated, and if you have any question, please feel free to contact me.

Stephanie Rhee
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Appendix N: Reminder Letter in Korean

Date: / /2013

한인 어르신들에게:

안녕하세요. 코리아타운이 없는 곳에 사시는 한인 어른들의 이민 생활 경험을 연구하고자 설문조사에 참여하여 주십사 편지를 드렸던 학생입니다. 그동안 많은 분들이 설문조사에 참여하여 주셨습니다. 하지만 이 연구를 마칠 수 있으려면 적어도 40여분들의 협조가 더 필요합니다. 그래서 실례를 무릅쓰고 이렇게 다시한번 설문조사에 참여하여 주십사 편지를 드립니다. 여러분의 설문조사 참여는 한인어르신들에 관한 연구를 마치는 데 그리고 한인사회의 발전에 귀중한 보탬이 됩니다. 혹 지난 번 보내드린 편지를 갖고계시지 않을 경우를 위해 한글로 된 설문조사 편지를 다시 보내드립니다. 읽어보시고 관심이 있으시면 동봉된 우편봉투에 서명된 동의서를 넣어 보내주십시오. 그러면 제가 설문지를 보내드리겠습니다. 만약 영어로 된 편지를 원하시면 동의서에 적어 보내 주세요. 곧 보내드리겠습니다.

여러분의 협조에 깊은 감사드립니다. 의문나시는 점이 있으시면 저에게 연락주십시오.

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EDUCATION

1999  Master of Science in Social Administration
      Case Western Reserve University,
      Mandel School of Applied Social Sciences, Cleveland, Ohio

1997  Master of Arts in Medical Anthropology
      Case Western Reserve University,
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1988  Master of Arts in English Literature
      Korea University, College of Liberal Arts, Seoul, Korea

1984  Bachelor of Arts in English Literature
      Seoul Women’s University, College of Liberal Arts, Seoul, Korea

LICENSURE & CERTIFICATE

2000 - Present  Ohio State Licensed Social Worker

1997  Certificate of Gerontology
      Case Western Reserve University, Cleveland, Ohio

PROFESSIONAL POSITIONS & EXPERIENCES

2000 - Present  Medical Social Worker
      University of Cincinnati Medical Center, Cincinnati, Ohio

08/2006 - 05/2011  Adjunct Faculty
      University of Kentucky, Lexington, Kentucky

08/2008 - 12/2009  Independent Study Faculty Mentor
      University of Kentucky, Lexington, Kentucky

01/2007 - 09/2007  Research Assistant
      Training Resource Center, University of Kentucky
      Program evaluation project

06/1998 - 08/1998  Research Assistant
      Mandel School of Applied Social Sciences
      Case Western Reserve University, Cleveland Ohio
      Data Analysis in Geriatric Interdisciplinary Team Project
Veterans Affairs Medical Center, Brecksville, Ohio

PROFESSIONAL HONORS & AWARDS

08/2006  University Hospital Senior Vice President Employee of the Quarter Award
University of Cincinnati Medical Center, Cincinnati, Ohio

03/2012  Peggy Sogar Award
Social Work Department
University of Cincinnati Medical Center

PROFESSIONAL PUBLICATIONS

Peer Reviewed Journal Article


Technical Report