UNIVERSITY OF CALGARY

Effect of Acculturation on Life Satisfaction

Among Aging Chinese Immigrants in Canada

by

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A THESIS

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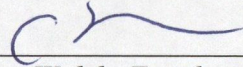

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Effect of Acculturation on Life Satisfaction Among Aging Chinese Immigrants in Canada "submitted by Haiying Wang in partial fulfilment of the requirements of the degree of Master of Social Work.

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Abstract

Acculturation is significant to the adaptation and adjustment of immigrants and ethno-minority groups. Although the Chinese are the second largest visible minority group in Canada, research on aging Chinese immigrants is lacking. This study examines the effect of acculturation variables on life satisfaction among aging Chinese immigrants in Canada. Life satisfaction was measured by a single-item global measure. Based on the survey data obtained from 2214 immigrant 55 years and older in seven cities, hypotheses related to the effect of acculturation variables on life satisfaction were not supported. Adherence to Chinese culture was the only acculturation variable significantly related to a higher level of life satisfaction. The findings indicate the importance of incorporating Chinese cultural values and beliefs in working with aging Chinese immigrants. Culturally appropriate practice to address needs related to finance, and mental health of this client group is also needed.

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CHAPTER 1: INTRODUCTION

Statement of the Problem

In the past few decades the Chinese have become the second largest visible minority group in Canada. Similar to other population groups, increasingly more Chinese-Canadians are entering old age. Life satisfaction is often considered an important aspect of the wellbeing of the aging population, and acculturation is significant to the adaptation and adjustment of immigrants and ethno-minority groups. However, there is little past research on the aging Chinese population in Canada and their life satisfaction, and research is especially lacking in regards to the effect of the acculturation process on life satisfaction. Empirical research that collects data, compares findings, and validates existing theories is needed to understand the elderly Chinese's adaptation process and their experience of life in a new country. Social work practice with culturally diverse populations will benefit from empirical knowledge about this culturally diverse aging population so that programs and policies can be better developed to meet their needs. This study focuses on exploring the effects of acculturation on life satisfaction among aging Chinese immigrants in Canada across different age cohorts of 55-64, 64-75, and 75 years and above. Under the theoretical framework of acculturation, multi-dimensions of acculturation along with other demographic, social, and health variables were used to examine the core objective.

Increase of Population, Aging and Cultural Diversity in Canada

According to the 2006 Census, due to decreasing fertility rates and increasing longevity, there are more elderly and fewer children in Canada. Statistics on Canadians show that seniors are living longer. The life expectancy of Canadians is 82.5 years for women and 77.7 for men (Statistics Canada, 2007a), likely due to improvements of

environment, hygiene, and economy and the advancement of medical technology (An, K. An, O'Connor, & Wexler, 2008; Chong, 2007). There were 4.3 million people 65 years and older in Canada in the year 2006, comprising 13.7% of Canada's population. It is estimated by the year of 2056, those 65 years and older will comprise 27% of the population (Statistics Canada, 2007d).

There are three main sources for the increasing elderly population. These include the baby boomer generation, newly admitted elderly immigrants within the past ten years, and those older-comers (those who have immigrated to Canada more than ten years ago) who are entering their old age. These three groups of elderly are the main concern in the area of gerontological social work.

The baby-boomer generation was born between the years of 1946 and 1965, making them 41 to 60 years of age in 2006 and comprising 30% of the Canadian population (Statistics Canada, 2007a). Because of this generation, the number of people 55 to 64 years of age reached 3.7 million in 2006. This is the fastest growth (28%) in a group between 2001 and 2006 (Statistics Canada, 2007a).The large cohort of baby boomers will be the biggest composition of the aging population in the next decade.

In addition to the large baby-boomer population, the numbers of culturally diverse groups are growing within Canada. Canada has been an immigrant receiving country since its inception (Li, 2002; Smick, 2006). With the adoption of the multiculturalism policy in 1971, more than 13 million immigrants have arrived in Canada (Statistics Canada, 2007c), making Canada one of the most ethnically diverse countries in the world. According to the 2006 census, foreign-born populations account for 19.8% of the total population in Canada, and over 200 different ethnic origins were reported in the Census. Among them, it was

estimated that 5 million individuals are visible minorities, which accounted for 16.2% of

Canada's total population, increasing from 13.4% in 2001 and 11.2% in 1996 (Statistics

Canada, 2008b). According to the *Employment Equity Act*, visible minorities are defined as

"persons, other than Aboriginal persons, who are non-Caucasian in race or non-white in

colour, and specifically include the following groups: Chinese, South Asians, Blacks,

Arabs, West Asians, Filipinos, Southeast Asians, Latin Americans, Japanese, Koreans and

other visible minority groups, such as Pacific Islanders" (Statistic Canada, 2008a). The

visible minority groups further diversify the culture, language, and life within Canada.

The growth rate of visible minority populations between 2001 and 2006 was 27.2%,

which is 5 times faster than the Canadian-born population, and this trend is accelerating

(Statistic Canada, 2008a). By 2017, it is estimated that about 20% of Canada's population

(6.3 million to 8.5 million) could be visible minorities (Statistics Canada, 2007c). The fast

growth may due to the high proportion of newcomers or immigrants (Statistics Canada,

2008b). According to the 2006 Census, more than 1.1 million immigrants arrived in the

country between January 1, 2001 and May 16, 2006, 75% of which were visible minorities.

Among this population, 3.4% of immigrants who came to Canada were 65 years and older,

and 4.1% of newcomers were in the older working-age group of 55 to 64 in the last five

years (Statistics Canada, 2007c). It is expected that these newcomers will enter into the

elderly group in the next 10 years.

At the same time, those who immigrated to Canada several decades before will also

contribute to the aging population in the following two decades. On one hand, the

immigrant populations were a large portion of Canadian seniors (above 65 years). In 2001,

the share of immigrant seniors increased from 17% in 1981 to 18.9% in 2001 (Statistics

Canada, 2007e). On the other hand, the immigrant population is also aging. According to Statistics Canada (2008a), about 1.3 million immigrants were admitted to Canada in the 1980s. In the 1990s, about 2.2 million immigrants were admitted to Canada. Most immigrants came to Canada as young adults (Statistics Canada, 2007c). By calculating the composition of the immigrant population each year during 1980-1996 (Citizenship and Immigration Canada, 1986, 1992, 1993, 1994, 1995, 1996), the percentage of immigrants younger than 55 years old before 1990 was between 84-88%; after 1991 was around 90%. Considering the small emigration rate, around 4.3% during 1990-1998 (Dryburgh & Hamel, 2004), most of the adult immigrants who came in that two decades will spend their elderly years in Canada.

It was reported that visible minorities in Canada were younger than other Canadians (Statistics Canada, 2001). But it is still worth knowing that 7.3% of the visible minorities were 65 years of age and older in 2006 (Statistics Canada, 2008a). The share is even higher in some visible minority groups, such as the Chinese (10.66%), and Japanese (14.31%) (Statistics Canada, 2009). As well, 9% of the Chinese immigrants were at the age group 55-64 (Statistics Canada, 2010). Therefore, the visible minority groups, and especially the Chinese, are groups that cannot be neglected in the gerontological social work profession.

Chinese Older Adults as the Focus of the Study

Despite the changes in the demographic composition of Canada's population and cultural background, relatively little research have been done on aging immigrant adults, particularly those who are visible minorities. One reason is that there is a lack of knowledge about cultural diversity, due to "the preponderance of research focusing on the white elderly population and the tendency to combine all Asian nationalities into a

homogeneous group" (Mui, Kang, Kang, & Domanski, 2007, p. 119). To improve the situation, it is important to separate aging individuals to specific ethnic groups for an effective analysis (Yamaguchi & Silverstein, 2003).

Looking at the demographic composition of Canada, immigrants from China have led the growth of the population since the 1980s. According to the 2006 Census, among the immigrants that arrived between 2001 and 2006, 14% came from the People's Republic of China (Statistics Canada, 2007b). Chinese made up the second largest visible minority group in 2006, next to South Asians, and accounted for about 24.0% of the visible minority population and 3.9% of the total Canadian population. It was predicted that about 10% of Canada's population could be South Asian or Chinese by 2017 (Statistics Canada, 2008b). According to the 2006 Census sample data, it is estimated that about 27.4% of immigrants from China are 55 years or older. With older Chinese being a substantial part of the visible minority aging population in Canada, it is important to understand their needs, feelings, and life experiences from their viewpoint, and carry out culturally appropriate services and policies for them. Therefore, this study will only focus on aging Chinese immigrants.

Life Satisfaction and Older Adults

With the increase of the aging population, the subjective well being of elderly people has been a key concern of the government (Statistics Canada, 2007e; WHO, 2002), health professionals (An. et al., 2008; Bassett, Bourbonnais, & McDowell, 2007; Foster, 1992), and social workers (Cheung & Kwan, 2006; Chong, 2007; S. M. Cummings, 2002; Hsieh, 2005; Silveira & Allebeck, 2001), who are all expected to work with increasingly more elderly people as their clients. The issue of well being is more crucial for elderly

immigrants as they are often considered the most vulnerable group among the aging population (Lai & Chau, 2007).

Aging is a natural process. Due to the increase of spare time and the change in responsibilities both in society and in the family, senior years can be either a time of enrichment or a time of pain (Wynne & Groves, 1995). Among the various concepts of well being, life satisfaction is one of the most common measures reflecting the relatively stable and long-term judgments of subjective well-being (Pinquart & Sörensen, 2000). Life satisfaction refers to an individual's cognitive appraisal or evaluation of his or her life (Davis & Friderich, 2004; Edwards & Lopez, 2006; Pinquart & Sörensen, 2000; Windle & Woods, 2004) and is achieved through "comparing someone's expectations (whatever is desired) with possessions (whatever is gained)" (Özer, 2004, p.34). It is a goal that human beings strive to achieve throughout the course of their lives (Cribb, 2000; Ehrhardt, Saris, & Veenhoven, 2000).

The importance of life satisfaction in old age has been well documented in literature. It was claimed that life satisfaction is important for elderly due to the many obstacles they may face in old age, such as the aging process itself or health problems (Lowenstein, Katz, & Gur-Yaish, 2007). Life satisfaction was considered to be an important indicator of successful aging (An et al., 2008; Davis & Friedrich, 2004). Elderly people with a higher level of life satisfaction demonstrate a stronger ability to protect and maintain their health (Özer, 2004). Satisfied elderly people are a positive contributing force to society (Wynne & Groves, 1995). As well, satisfied immigrants and even elderly immigrants are vital for the functioning of society (Vohra & Adair, 2000). Studying life satisfaction is helpful towards the understanding of human development/behavior in later

life (Herzog, Rodgers, & Woodworth, 1982; A. Y. Zhang & Yu, 1998) because older

people may have different perceptions of well-being due to adaptation strategies, cohort

effects, or age-related life circumstances (Ku, Fox, & McKenna, 2008). All the evidence

above confirms the importance of examining life satisfaction as an important domain of

well being among the elderly population.

Older Chinese and Life Satisfaction

With the aging of the Chinese population and different social and cultural norms

compared to Western countries, increasing attention has been given to older Chinese people

in studies of well-being or life satisfaction. Studies on life satisfaction of Chinese people

have been conducted in mainland China (Appleton & Song, 2008; W. G. Zhang & Liu,

2007; A. Y. Zhang & Yu, 1998), Hong Kong (Cheung & Kwan, 2006; Lee, 2004), Taiwan

(Lu & Chang, 1997), and Canada (Chappell, 2005; Lai & McDonald, 1995). Comparison

studies among Chinese in different countries or between Chinese and other ethnic groups in

immigrant receiving countries are also available (Chappell, Lai, Lin, Chi, & Gui, 2000;

Mui et al., 2007).

Aging in traditional Chinese culture is seen more positively than in Western culture

(Chappell, 2005). Seniors are valuable and deserve care and respect (Chappell et al. 2000;

A. Y. Zhang & Yu, 1998). On the contrary, under the Western culture, aging is connected

with "unproductiveness" and "being a burden to the society" (Bassett et al., 2007). As well,

meanings of well-being are different, depending on the social and cultural norms, such as

individualism and collectivism (Ku et al., 2008; Reid, 2004). Positive self-evaluation plays

an important role in the judgment of well-being under individualism (Reid, 2004). While

under collectivism, individual life satisfaction is affected by external factors (Yeh &

Huang, 1996), such as norms, roles, and obligations (Suh, Diener, Oishi, & Triandis, 1998). Though differences exist, studies still tend to generalize that for older Chinese, predictors of life satisfaction are consistent with findings in Western countries, and findings on life satisfaction are applied to the Chinese elderly in Western countries (e.g. Chappell et al., 2000; J. J. Lee, 2005).

However, the relatively limited published research is far more than enough to understand the life satisfaction of aging Chinese immigrants in Western countries. When older Chinese immigrants live under Western beliefs and values, they may be cut off from the traditional support ties, and may not be able to integrate into the mainstream, which in turn affects their later life (Chi, Chappell, & Lubben, 2001). This gives rise to the importance of understanding the relationship between cultural adjustment/adaptation and life satisfaction of this elderly subpopulation.

Acculturation and Life Satisfaction

For immigrants, acculturation happens when they leave a familiar environment for a less familiar or unknown environment, and are exposed to a new culture (Franzini & Fernandez-Esquer, 2004; Marsiglia et al., 2005). The simplest definition of acculturation in the literature is that it is a process that occurs when two cultures interact with each other (Suinn, 2009). Though a relatively small amount of literature on the relationship between acculturation and life satisfaction exists, positive relations between acculturation level and life satisfaction have been confirmed, such as among Chinese adolescent immigrants (Jung, 1996), Older Korean immigrants (M. S. Kim, 1997) and Hispanic elderly (Gueller, 1997). Acculturation has been found to cause individual changes in five areas: physical, biological, cultural, social relationships, and the psychological state (Berry, Kim, Minde, &

Mok, 1987). The rapid changes that accompany the process of acculturation have potential effects on the stability of one's overall life satisfaction (Sam, 1998). Generally, successful acculturation consists of mental and physical health, psychological satisfaction, high self-esteem, competent work performance, and good grades in school (Liebkind, 2001). Several studies have confirmed that the level of acculturation impacts immigrants' health, mental health, adaptation, intergenerational relationships, and help-seeking attitudes (Birman, Trickett, & Buchanan, 2005, Franzini & Fernandez-Esquer, 2004, Le Sage & Townsend, 2004; Lee et al., 2004; Torres & Rollock, 2007), which might affect people's life satisfaction. Krause and Goldenhar (1992) also found that financial strain and social isolation were intervening factors that may link acculturation with well-being in later life.

Considered to be the most commonly studied adaptation variable (Torres & Rollock, 2007), the immigrants' level of acculturation may actually reflect their adaptation to the new culture (Jung, 1996). Therefore, the theory of "acculturation" is a proposed framework in this study. Based on the anthropological context of 'acculturation', the construct has been introduced to psychological literature concerning colonialization (Berry, 2006) and Aboriginal peoples (Rudmin & Ahmadzadeh, 2001). More recently it has been studied extensively at the individual level in relation to immigrants and refugees (Ward, 2005). As Chun, Organista, and Marin (2003) point out, a consistent belief about acculturation among different researchers is that it is important in any multicultural society regarding the behaviour and beliefs of members of ethnic groups.

Acculturation is featured as "cultural learning perspectives" (Torres & Rollock, 2007, p. 10). Every culture provides a set of prescribed and proscribed behaviours and norms associated with the aging experience (Kamo & Zhou, 1994). A difference between

Western culture and the Chinese culture is individualism and collectivism (Fitzpatrick et al., 2006). Individualism focuses on uniqueness of personhood, personal goals, and singular actions, while collectivism emphasizes group cohesiveness, harmony, and obligation (Pilgirm & Rueda-Eiedle, 2002). This difference will contribute to, or decrease, acculturation (Fitzpatrick et al., 2006), and acculturation orientation is significantly associated with life satisfaction (Edwards & Lopez, 2006).

Based on the research literature and findings mentioned above, it is clear that examining the effects of acculturation will help professionals understand how these factors affect adjustment and life satisfaction of immigrant populations, including older adults (Cuellar, Bastida, & Braccio, 2004). Doing so would also assist in developing and delivering culturally appropriate services when working with clients from different cultural contexts and backgrounds by taking into consideration these acculturation characteristics (Thomas & Choi, 2006). However, in Canada, there is a lack of research on the relationship between acculturation and life satisfaction among immigrant populations, further justifying the need to examine the effects of acculturation on life satisfaction of older Chinese immigrants in Canada.

Review of the literature shows that the existing measurements of acculturation are complex, and vary from single index to multidimensional measures (Liebkind, 2001; Yamada, Valle, Rarrio, & Jeste, 2006). From the theoretical perspective, they may fall under different acculturation models: unidimensional, bidimensional, and multidimensional. Distinguished from the conceptual pattern, the focus of measurements is either on the changing process, such as length of residence, or on the state, the amount or extent of acculturation at a given moment (Liebkind, 2001). Differentiated from various

domains, these measurements have attempted to assess behaviors, values, knowledge, attitudes, etc. No matter which model or types of scales were adopted in the existing acculturation studies, one common point is that acculturation involves changes in individual functioning areas, including behavioral, affective, and cognitive. These changes have also been used to capture the essence of acculturation.

Due to the focus of this study, no single measurement scale has been adopted, because looking at participants' acculturation levels is not the main aim. To find out the effect of acculturation on life satisfaction, several common or important dimensions that have been used in other acculturation studies, especially with older adult populations, have been selected as independent variables in this study. These variables include length of residence, English competency, religion, ethnic identity, and Chinese culture.

Implications for Social Workers

Social work is a profession aiming at improving human well-being. With the aging population, social workers often play an important role in helping elderly establish a positive view towards aging and maintain a satisfied life. Kaufman and Tang (2008) argued that social workers should focus on enhancing life satisfaction by helping older people maximize their physical and emotional well-being, their decision-making skills, and their independence in all practice settings. This builds on the premise of knowing what contributes to life satisfaction for the elderly from their viewpoint.

Studies on the aging population can serve to enrich the general knowledge of aging, validate empirically the existing theories, and may guide the design of information for seniors. Understanding influential factors on life satisfaction is very important for social workers to help elder immigrants' adaptation. Also, understanding factors associated with

life satisfaction of older people can have policy and practice implications. The empirical findings will help to identify the difference between older adults' abilities/needs and the resources/supports provided by the environment and the government (Bassett et al., 2007). The knowledge accumulated through research and practice will provide strong evidence with which to formulate national aging policies from a social work perspective. The knowledge will also prepare social workers to better represent and advocate for older adults to increase policy makers' understanding of their needs, and approach health and social welfare policy for them.

In working with immigrant elderly populations, social workers need to be very sensitive to the diversity not only in age cohorts, but also in ethnicity and culture. Older people from different cultural backgrounds may have different beliefs and vary in their use of formal and informal supports. They tend to use unique cultural capacities and personal, family, and community strengths and resources to successfully cope with stressful life events in their later years (Kaufman & Tang, 2008). They may not be comfortable with English or with the resources or service systems (Yamada et al., 2006). With the growing number of ethno-cultural minority elderly in Canada, especially the Chinese population, it is important to understand their well being and their accommodations with the acculturation factors that affect their well being, as this will affect how proper interventions should be developed.

In a profession responsible for intervention and service delivery, it is the social workers' responsibility to help older adults from diverse ethnic backgrounds better adjust and function in the society that they are living in. Knowledge of the relationship between acculturation and life satisfaction will better enable us to deliver and improve services to

facilitate their adjustment to the new culture/environment. Through understanding the relationship between acculturation and life satisfaction, appropriate services and intervention strategies should be developed to facilitate immigrant older adults' adjustment and enhance their wellbeing in the new country. As Graves (1967) pointed out that no matter what is learned about the process of acculturation, it may provide a starting point for effective strategies of planned intervention.

<div align="center">Objective of the Study</div>

Through gaining empirical knowledge, research studies of life satisfaction among immigrants and its correlates will put practitioners in a better position to understand and thus to help immigrants live a better life. Although studies of life satisfaction have been conducted extensively in literature, there are few that focus on acculturation and life satisfaction of aging Chinese immigrants in Canada. Also, few studies have focused on the acculturation variables, such as length of residence, language competency, religion, cultural belief, and identity in studying the life satisfaction of the older population. Therefore, it is the objective of this research to examine the effect of acculturation on life satisfaction of aging Chinese immigrants in Canada.

To achieve the research objective, this study focuses on answering the key research question: What are the relationships between acculturation and life satisfaction among the aging Chinese immigrants in Canada across different age cohorts, 55-64, 65-74, and above 75, while taking into consideration the complicating effects of the other demographic, social, and health variables?

Based on the research question and the literature review, five hypotheses were derived:

Hypothesis 1 Those who have been in Canada longer report a higher level of life satisfaction.

Hypothesis 2 Those who have a higher level of English competency report a higher level of life satisfaction.

Hypothesis 3 Those who report having a Western religion report a higher level of life satisfaction.

Hypothesis 4 Those who have a stronger Chinese ethnic identity report a lower level of life satisfaction.

Hypothesis 5 Those who report a stronger adherence to Chinese cultural values report a lower level of life satisfaction.

CHAPTER 2: LITERATURE REVIEW

(LIFE SATISFACTION AND ACCULTURATION)

Life satisfaction and acculturation are two important and complex constructs in many disciplines, such as sociology, psychology, nursing, and economics. They have been extensively examined regarding their theory, definition, measurement, or predictors. To understand the effect of acculturation on life satisfaction, it is necessary to know these two constructs separately. Therefore, this chapter contains two sections of literature review on life satisfaction and acculturation. Each section provides a review of the available literature including definition, theories, measurement, and predictors/variables. Critiques of the literature are also presented, which is the basis of the present study.

Life Satisfaction of Older Adults

In the literature, subjective well-being (SWB), quality of life, life satisfaction, and happiness are inconsistent terms used in human well-being studies. For the purpose of this paper, a clear definition will be adopted. Subjective well-being and objective quality of life are two components of human well-being (Cummins, Gullone, & Lau, 2002). Subjective well-being is defined as a "positive evaluation of one's life associated with good feelings" (Pinquart & Sorensen, 2000), and comprises two general dimensions: cognitive/judgmental and affective/emotional (Cummins et al., 2002; Davern, Cummins, & Stokes, 2007; Reid, 2004). Happiness captures the affective dimension, while life satisfaction measures the cognitive part (Cummins et al., 2002; Larsen & Eid, 2008). Furthermore, happiness reflects more about short-term situations and shows great variability, whereas life satisfaction tends to reflect relatively stable long-term judgment of well-being (Pinquart & Sörensen, 2000). This study concentrates on the cognitive part of subjective well-being, life satisfaction,

more specifically general life satisfaction. Because most studies use life satisfaction as a predictor of subjective well-being, subjective well-being and life satisfaction are used interchangeably here.

Subjective Well-being and Aging

Subjective well-being is a continuum ranging from positive to negative on evaluations of peoples' present situation and internal states in gerontology literature (Lawton, Kleban, & Dicarlo, 1984). According to Neugarten, Havighurst, and Tobin (1961), a person who is considered to be positive should have five features: (1) takes pleasure from the round of activities that constitutes his everyday life; (2) regards his life as meaningful and accepts resolutely that which life has been; (3) feels he has succeeded in achieving his major goals; (4) holds a positive image of self; and (5) maintains happy and optimistic attitudes and moods. Windle and Woods (2004) further pointed out that positive well-being "occur when an individual has the personal resolve to feel in control and can adapt their behaviour accordingly" (p. 584).

Subjective well-being has been considered an important component of aging (Davis & Friedrich, 2004; Pinquart & Sörensen, 2000; Windle & Woods, 2004). There have been various constructs to define and measure outcomes in later life (Wallace & Wheeler, 2002), such as adjustment, competence, morale, self-esteem, happiness, and life satisfaction. The general disagreement among these approaches is whether the focuses of measurement should be on the level of social participation or on the individuals' internal frame of reference—life satisfaction or happiness (Neugarten et al., 1961). The latter approach assumes that the individual himself is the best judge of his well-being (Graham, 1997), and

the standards based upon activity or social involvement that apply to middle age are not appropriate for old people (Neugarten et al., 1961).

Different measurement techniques have been improved and validated in the past several decades. But what older people think of aging (Hsu, 2007) and how they experienced aging in their own words (Bassett et al., 2007) have not drawn much attention except from few. According to a qualitative study on how the elderly live long and keep well (Bassett et al., 2007), the overall interpretation of Canadian seniors' responses was "make sense of their lives as active, moral, cognitively and socially engaged individuals" (p. 123). Turning to the Chinese concept of successful aging in old age, Hsu (2007)'s study pointed out that older Taiwanese people had different views about the key components of successful aging than Westerners. They put more value on health, independence, economic security, family support, and social-policy environment which they thought should be improved to provide the requirement of successful aging.

Definition and Structure of Life Satisfaction

Life satisfaction is a commonly-used indicator of subjective well-being in gerontology studies (Chappell, 2005; Chong, 2007; Cummings, 2002; Davis & Friderich, 2004; Edwards & Lopez, 2006; Foster, 1992; Yoon & Lee, 2007). The most accepted definition of life satisfaction is an individual's cognitive appraisal/evaluation of his or her life (Davis & Friderich, 2004; Edwards & Lopez, 2006; Pinquart & Sörensen, 2000; Windle & Woods, 2004). It involves some forms of an internal comparison process (Cummins et al., 2002) and is achieved through "comparing someone's expectations (whatever desired) with possessions (whatever gained)" (Özer, 2004, p.34).

Life satisfaction refers to a person's life as a whole (general life satisfaction and/or the different life domains), and domain satisfaction, such as health, productivity, intimacy, material, safety, community, and emotional (Hsieh, 2005). A causal model of the relationship between life satisfaction (LS) and domain satisfaction (DS) (Figure 2.1) proposed by Schimmack (2008) illustrates several potential correlations between them. This model catches most of theoretical frameworks of life satisfaction.

Two causal theories—bottom-up and top-down are embodied in this model. Bottom-up theory assumes that a change in domain satisfaction will result in a change in general life satisfaction. According to the bottom-up theory, older adults first assess feelings of satisfaction within specific life domains based on the experiences, then synthesized to form an overall life satisfaction (Krause, 1991). In contrast, top-down theory assumes that a person's overall sense of satisfaction with life predicts his/her domain satisfaction in ways that are congruent with his/her initial sense of global life satisfaction (Krause, 1991), and changes in domain satisfaction will have no effect on life satisfaction (Schimmack, 2008).

Schimmack (2008) further pointed out that the two causal theories are not the only correlations between LS and DS. One other possibility is that the correlation is caused by "shared method variance" (p. 99)-- self reports. The shared method variance exaggerates the correlation between DS and LS. Also, other variables such as personality traits will independently influence DS and LS. The common influence inflates the correlation too.

Measure of Life Satisfaction

A number of methods have been used to measure subjective well-being including self-report scales, informant reports, experience sampling, smiling, memory measures, and

Figure 2.1 *Causal Model of the Relations Between Life Satisfaction and Domain*

Satisfaction
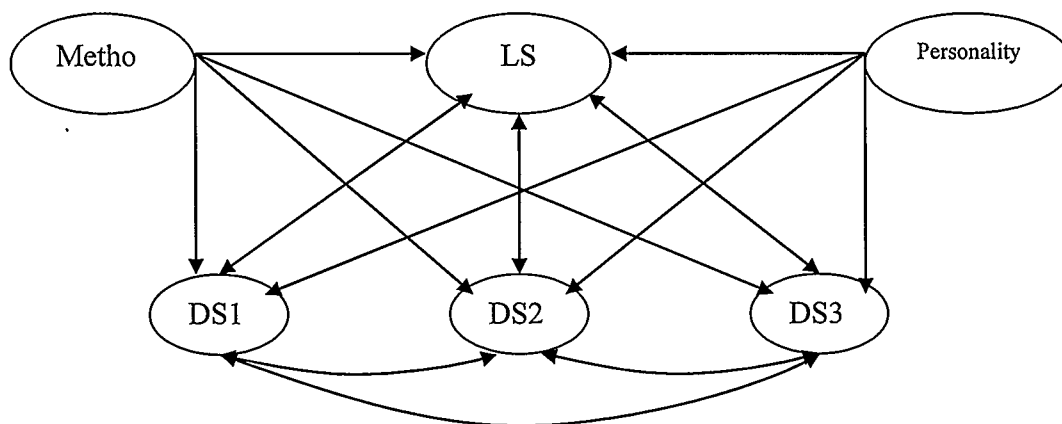
interviews (Diener & Suh, 2000). Among them, self-reporting is found to be the most

popular for life satisfaction because it is a state of mind that can only be measured by

asking people (Ehrhardt et al., 2000). The advantage of self-reporting is that it reports the

respondent's subjective experience directly with no need to infer or interpret (Pavot, 2008).

According to the causal model, self-report satisfaction measures generally fall into one of

two categories: measures of general life satisfaction or measures of domain satisfaction.

Global Measure

A review of the literature (e.g. Lai & McDonald, 1995, Krueger & Schkade, 2007,

Pavot, 2008) suggested that there are two frequently used approaches in assessing general

life satisfaction. The first one is the single-item approach. The question, "All things

considered, how satisfied are you with your life as a whole these days?" with answers in 3

to 11 response categories, has been used to measure an individual's level of satisfaction

with life as a whole (Bolle & Kemp, 2009). This approach is the most popular measure of

subjective well-being in many countries (Krueger & Schkade, 2007) and is considered to be

quite valid and fairly reliable (Ehrhardt et al., 2000). Based on top-down life satisfaction

theory (Krause, 1991), the use of a global measure has been supported by several studies (e.

g. Hiller, Jorm, Herlitz, & Winblad, 2001; Ryan & Dziurawiec, 2001; Schroeder & Costa,

1984). The second one is a multidimensional approach which intends to assess a set of

important life domains, such as the Life Satisfaction Index (LSI) and the Satisfaction with

Life Scale (SWLS). LSI, developed by Neugarten et al. (1961) is considered to be a

valuable scale for older adults (Pavot, 2008; Wallace & Wheeler, 2002).

Domain Measures

Different from the general measure, measures of domain satisfaction focus on one particular domain of life, such as marital satisfaction, housing satisfaction, job satisfaction, or health satisfaction. Though their reliability is higher than overall life satisfaction, it seems that they are less applicable as general measures of life satisfaction (Krueger & Schkade, 2007). Pavot (2008) posited that these measures were narrow, and can only be used in specific research settings, whereas Hsieh (2005) suggested that general life satisfaction in old age can be represented by a weighted composite of domain satisfactions that assumes the unequal importance of all life domains.

Validity and Reliability of Measurements

The measures mentioned above have strong psychometric properties (Vitterso, Roysamb, & Diener, 2002) and have been widely used in current life satisfaction studies. However, little effort has been given to validate these measurements. Diener and Suh (2000) pointed out that more studies focusing on the validity of these measurements are needed for different nations or cultures. Furthermore, the validity of the quantitative measurements was doubted by Thomas and Chambers (1989). In their comparable study of life satisfaction between English and Indian elderly men, group difference was not significant in the structured measures (LSI), but themes emerged from the open ended interview differing greatly. They posited that the method of assigning numbers to represent levels of life satisfaction would result in missing psychologically relevant information. Structured measures ignore the larger context of the individual and failed to reflect the life experience of these men.

Krueger and Schkade (2007) conducted an extensive review on the reliability of these measures (Table 2.1). The result confirmed that life satisfaction is a relatively stable variable over an individual's lifespan (Iwamoto, Rogers, & Gallegos, 2003). They also tested the correlation of the single-item measure at a two-week interval and yielded a result of about .60. The result was thought to be "lower than the reliability ratios typically found for education, income …but high enough to support much of the research that has been undertaken on subjective well-being" (p. 2). Their review also suggested that multiple item measures, such as SWLS, show higher reliability than single-item measures.

Slightly different from the previous studies, Ehrhardt et al. (2000)'s study on life satisfaction over 10 years only yielded a correlation at about .29. They suggested that in the longer term, the variable components of life satisfaction may be greater than stable ones. The reason lies in two aspects. First, personality traits are less stable in the long run than expected. Second, personality does not always affect life satisfaction in the same way. This gives rise to the importance of a longitudinal study of life satisfaction.

Theories on Life Satisfaction

There is extensive literature on the life satisfaction of the elderly, focused on different aspects. Studies have been conducted in many different settings, such as rural areas (Yoon & Lee, 2007) and urban areas (Chappell et al., 2000; Cummings, 2002; Lee, 2005). There are studies focusing on gender (An et al., 2008; Özer, 2004; Riddick & Stewart, 1994; Thomas & Chambers, 1989). There are also studies focusing on different living arrangements: community living (Abu-Bader, Rogers, & Barusch, 2002; Aquino, Russell, Cutrona, & Altmaier, 1996; Jang, Mortimer, Haley & Graves, 2004); residential care (Cummings, 2002) and independent living (Davis & Friedrich, 2004; Lee, 2005).

Table 2.1 *Estimates of Reliability for Well-being Measures*

	Test-retest Correlation	Temporal Interval	Variable
Single-Item measure			
Andrews & Whithey (1976)	.40-.66	1 hour	Life satisfaction
Kammann & Flett (1983)	.50-.55	Same day	Overall happiness, satisfaction
Krueger & Schkade (2007)	.49-.67	2 weeks	Life satisfaction
Multiple-item Measures			
Alfonso & Allison (1992a)	.83	2 weeks	SWLS
Pavot et al. (1991)	.84	1 month	SWLS
Blais et al. (1989)	.64	2 month	SWLS
Diener et al. (1985)	.82	2 months	SWLS
Yardley & Rice (1991)	.50	10 weeks	SWLS
Magnus et al. (1992)	.54	4 years	SWLS

Note: From The reliability of subjective well-being measures, by A. B. Krueger and D. A. Schkade, 2007, Cambridge, MA: National Bureau of Economic Research.

Comparative studies among different living arrangements are also available (An et al., 2008; Özer, 2004). Some scholars tried to pay attention to 'special' groups like elderly people with disease and disability (Jang et al., 2004), some showed special interests on low income elderly people (Abu-Bader, et al., 2002), and some focused on different ethnic groups, such as elderly Black adults (Foster, 1992; Riddick & Stewart, 1994), Chinese (Chappell et al., 2000; Chappell, 2005; Lee, 2005), Korean (An et al., 2008), Caribbean immigrants (Murphy & Mahalingam, 2006), Mexican American (Edwards & Lopez, 2006), African American (Utsey & Constantine, 2008), and cross-culture comparison (Thomas & Chambers, 1989). Furthermore, leisure activity participation (Riddick & Stewart, 1994) and working status (Aquino et al., 1996; Cheung & Kwan, 2006) are also some other current topics in the study of life satisfaction.

Review of the literature shows that different theories/perspectives have been adopted as frameworks to examine different levels of life satisfaction among groups or settings. These theories relate to social engagement, social relationship, and social achievements.

Disengagement theory and activity theory are two contradictory theories explaining the relationship between activity level and life satisfaction in later life. Disengagement theory is based on the premise that an "old person who 'retires' from an active engagement in his or her social world will be the one who retains high satisfaction with life and ages successfully" (Herzog et al., 1982, p. 6). Withdrawal from the society is caused by an emotional distance between the older and others (Lansford, Sherman & Antonucci, 1998). Activity theory posits that an older person who "remains active and retains frequent interactions with his or her social world ages are more successfully than the person who

experiences a shrink of his social world" (Herzog et al., 1982, p. 7). Social inactivity is caused by external factors such as mandatory retirement and deaths of loved ones. Therefore, social change is needed and public programs should be implemented to address the issue (Lansford et al., 1998).

Unlike these two theories, socio-emotional selectivity theory points out that age-associated withdrawal from social life is a gradually selective process. Through the process, people maintain meaningful relationships—close friends and family, and discard less important and potentially unpleasant ones—peripheral relationships. People not only are more selective in social relationships, but also emotionally invest in the relationships they selected and derive greater satisfaction from experiences with these partners (Carstensen, Fung, & Charles, 2003).

Social exchange theory (Walster, Walster & Berscheid, 1978) and equity theory (Blau, 1964; Homans, 1961; Thibaut & Kelley, 1959) are two similar theories in explaining the effect of intergenerational relationships on life satisfaction. The main point of social exchange theory is that "individual(s) wish to maximize rewards (both material and non-material) and minimize costs in relationships with significant others" (Lowenstein, et al., 2007, p. 868). Mjelde-Mossey, Chi, and Lou (2005) pointed out that under this theory, social relationship is "self-serving and will be maintained for as long as one is getting more than they give" (p. 44). It suggests that older parents who receive more support from their children experience a higher life satisfaction. Equity theory, an extension of social exchange theory, emphasizes that maintaining a balanced relationship will contribute to higher levels of well-being (Lowenstein et al., 2007). Equity theory implies that older parents experience higher levels of well-being only when they keep reciprocal relationships

with their adult children. Those who over-benefited from the relationship may experience feelings of guilt or dependence. Those who under-benefited may become angry or resentful (Lowenstein et al, 2007). People in an under-benefited exchange pattern (providing more help than they received) report highest life satisfaction, followed by those in a balanced exchange pattern. People in an over-benefited pattern (receiving more than they provide) report the lowest life satisfaction.

Multiple discrepancy theory (Micholas, 1985) asserts that satisfaction is a function of the perceived gaps between what one has and wants, relevant to what others have, the best one has had in the past, what one expected to have 3 years ago, expects to have after 5 years, and deserves and needs. These dimensions explained 35% of the variance in global life satisfaction of the participants in Micholas's study (1986) of seniors (above 60 years old) in Ontario. Vohra and Adair (2000) inssisted that the multiple discrepancy approach is most appropriate in studies of life satisfaction of immigrants because it focuses on individuals rather than on the effect of universal variables. "It's the judgments of their life situation compared to others or to what it could have been had they remained in their native country that are crucial to determining their own satisfaction with life" (p. 133).

Very similar to the multiple discrepancy theory, certain cognitive theories of depression and anxiety suggest that congruence between expectations and outcomes for life events will produce optimal functioning, while high expectations paired with poor outcomes generally lead to depression or anxiety (Murphy & Mahalingam, 2006).

Multiple hierarchy stratification perspective (Markides, Liang, & Jackson, 1990) and Jeopardy theory (Jackson, 1972) view ethnic minority status (race) as a source of inequality. Along with gender, age, and social class, ethnic minority status stratifies people

lives and is significantly related to life satisfaction (Riddick & Steward, 1994). Under this perspective, older women who are poor and are from minority populations occupy the bottom of the social hierarchy and are more likely to report lower life satisfaction.

Predictors of Life Satisfaction

Quantitative examinations of life satisfaction of elderly, focusing on correlations or predictors (An et al., 2008; Chappell, 2005), dominate the literature since the application of Life-Satisfaction Index (LSI) (Thomas & Chambers, 1989). It is suggested that life satisfaction is a subjective condition that can be explained by both subjective events and objective factors (Fernández-Ballesteros, Zamarrón, & Ruíz, 2001). A review of the literature shows that correlations have been found between life satisfaction and three general domains, social-demographic factors, psychosocial constructs, and psychological resources developed through the life course.

Social-Demographic Factors

It is expected that those who are younger, males, married, employed, and people with high education, high-income, and high social status may report higher levels of life satisfaction. However, based on the literature, no clear or consistent results have been produced. It is very difficult to draw clear conclusions from the existing studies.

Age.

The potential risk of poor health, low mobility, decreased income, and few social networks in old age may lead to the conclusion that older people may report lower life satisfaction than younger people. While due to the extensive age cohort (55 above) and inconsistency of measurement, some findings are contradictory. Several studies reported significant negative correlations between age and life satisfaction (Chou & Chi, 1999;

Lowenstein et al., 2007), while others did not support the finding. According to Statistics Canada (2007e), seniors, especially those 65 to 74 years of age, are more satisfied with their life than those 25 to 64. Foster (1992) also suggested a positive relationship between age and life satisfaction among older Black adults. Other scholars, such as Fernández-Ballesteros et al., (2001), Pinquart and Sörensen (2000), and Zhang and Yu (1998) suggest that there is no evidence of age-associated decline in the level of life satisfaction. Moreover, national and international studies of well-being and life satisfaction found that older people were at least as satisfied with life as younger people (Diener, Suh, Lucas, & Smith, 1999).

Gender.

Differences in social role, employment situation, and income result in gender differences in life satisfaction, especially in later life (Pinquart & Sörensen, 2000). Some studies found that females experience lower levels of life satisfaction (Cummings, 2002; Lowenstein et al., 2007; Siebert, Mutran, & Reitzes, 1999). Riddick & Steward (1994) pointed out that woman in United States report very low scores on life satisfaction (21-23 out of 36 points). However, gender accounts for little variance in predicting subjective well-being (Haring, Stock, & Okun, 1984). Some other studies even reported that there is no significant gender difference on subjective well-being (Diener et al., 1999; Vohra & Adair, 2000; Windle & Woods, 2004).

Gender is found to be associated with sources of subjective well-being rather than being directly correlated with life satisfaction. Pinquart and Sörensen (2000) pointed out that for males, socioeconomic status has a greater influence on life satisfaction, while for females, social network is a stronger predictor. Reid (2004) indicated that men would

emphasize internal sources (perceptions and qualities of the self) when they judge well-being, while women would take both internal and external sources (perceptions and qualities of groups and relationships) into account.

Employment status.

A review by Aquino et al. (1996) suggested that older people who remain active in the labor force have higher levels of life satisfaction. Their study also confirmed the number of hours worked at a paid job was significantly related to higher levels of life satisfaction. Besides, they suggested an indirect relationship between volunteer work in later life and life satisfaction. This relationship is also supported by some other scholars. Cheung and Kwan (2006) suggested that promoting volunteering is a means of empowerment which improves life satisfaction. Similarly, Lowenstein et al. (2007) pointed out that providing support to others can enhance self-esteem and the feeling of independence, which in turn can affect life satisfaction.

SES (Socioeconomic status).

SES refers to education, occupational status, and income. Pinquart and Sörensen (2000) pointed out that SES contributes to subjective well-being in at least four ways. First, higher SES contributes to a positive appraisal of one's life, which in turn promotes SWB in old age. Second, SES may contribute to SWB by improving the actual quality of life (e.g., by good housing and use of commercial leisure activities). Third, in the case of low material resources, economic strain contributes to low SWB. Fourth, SES may influence coping processes associated with the prevention of stressors.

Significant relationships between SES and life satisfaction has been confirmed in many studies, such as Foster (1992), Haring et al. (1984), and Lowenstein et al. (2007).

Fernández-Ballesteros et al. (2001) even suggested that education and income are more important predictors of life satisfaction than age and gender. Moreover, a review by Vitterso et al. (2002) suggested that cross-national studies on differences in life satisfaction all yield a high correlation between national wealth (measured by GDP) and life satisfaction, usually between .50-.70. But not all studies yielded the same results. For instance, studies by Diener (2000) and Vohra and Adair (2000) did not support the significant relationship between SES with life satisfaction. Pinquart and Sörensen (2000) suggested that SES is more important for the young-old than the old-old.

Marital status.

With few exceptions, it seems that married people report a higher level of life satisfaction than widowed, divorced, or single people (Fernández-Ballesteros et al., 2001; Lowenstein et al., 2007; Neugarten et al., 1961). However Windle and Woods (2004) find that single people report a higher life satisfaction than the married, widowed, or divorced.

Living arrangement.

Studies have confirmed that living arrangements are related to life satisfaction, but their influence on life satisfaction appears to be inconsistent among existing studies. Cummings (2002) suggested that the majority of assisted-living residents maintain strong well-being. But Özer (2004) pointed out that elderly individuals living in family environments report higher life satisfaction than those living in nursing homes. Due to cultural factors, most elderly Asians choose to live with their adult children and report higher levels of life satisfaction. For example, An et al. (2008) found that elderly Korean women who live with their married sons have the highest life satisfaction.

Psychosocial Constructs

Previous studies have confirmed that a set of psychosocial constructs, such as health (Abu-Bader et al., 2002; An et al., 2008; Cummings, 2002; Silveira & Allebeck, 2001), health-promoting activities (Foster, 1992), social support (Portero & Oliva, 2007), social relationships (Lowenstein et al., 2007), social engagement (Jang et al., 2004), religion (Blaine & Crocker, 1995; Yoon & Lee, 2007), and leisure activities (Riddick & Steward, 1994) are related to life satisfaction. Among them, the most important are health and social support.

Health.

Health is defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease, or infirmity" (WHO, 1947). The relationship between health and life satisfaction has been widely studied in different disciplines, such as by health professionals, psychologists, and social workers. Studies usually fall into four general categories: physical health (disease), functioning impairment, perceived health, and mental health.

It is generally acknowledged that health is a significant predictor of life satisfaction (Fernández-Ballesteros et al., 2001; Foster, 1992; Hsieh, 2005) and the relationship can be inverted (Zhang & Yu, 1998). But it is not entirely certain whether the importance of health on life satisfaction decreases with age (Hsieh, 2005) or remains the same or even increases with age (Deaton, 2007). Also, there are no consistent findings on which category of health is a better predictor of life satisfaction. Some studies have found that decreased physical functioning has been found to be associated with lower levels of life satisfaction for old people (Cummings, 2002; Windle & Woods, 2004). For example, Jang et al. (2004)

suggested that the effects of disease on life satisfaction depend on functional impairment. The severity of disability is more strongly associated with life satisfaction compared to disease. Nevertheless, in some other studies, subjective perception of health (perceived health) may be a better predictor of life satisfaction than actual functional ability (Abu-Bader et al., 2002; An et al., 2008; Cummings, 2002; Foster, 1992; Riddick & Steward, 1994).

Mental health is also an important factor in predicting life satisfaction in old age (Rogers, 1999), especially for older immigrants in their unique post-migration experience (Silveira & Allebeck, 2001).

Social support.

Social support includes the structural characteristics of a social network and the functional aspects of the interaction among its members (Portero & Oliva, 2007). Social support is a crucial factor in maintaining life satisfaction and overall well-being in older age (Iwamoto et al., 2003). Studies suggest that the usage of all available personal and social resources to obtain social support is critical for stress reduction, maintenance of health, and for a sense of self-sufficiency and well being (Simich, Beiser, Stewartk, & Mwakarimba, 2005; White & Cant, 2003), particularly for aging adults (Cummings, 2002; Yoon & Lee, 2007; Chappell et al., 2005; Abu-Bader et al., 2002). A lack of social support will accelerate the aging process (Franzini & Fernandez-Esquer, 2004).

The availability of social support among older adults is a big concern. Evidence has also shown that the primary source of help and support for the elderly is their own informal social network rather than formal support (Hernández-Plaza, Alonso-Morillejo & Pozo-Muñoz, 2006). Studies on elders mainly focus on reciprocity in social support between

older people and their family members (Lowenstein et al., 2007). Antonucci (1994) pointed out that family members make up half or more of an individuals' social support network and the proportion of family are even higher among closest supporters. Furthermore, commitment to friendship and identity as a friend significantly contribute to life satisfaction, and are more important in predicting life satisfaction than background variables such as income and marital status (Siebert et al., 1999). Though there is some disagreement on whether support from family members or friends is more important to older adults' well-being (Larson, Mannell, & Zuzanek, 1986; O'Connor, 1995; Wood & Robertson, 1978), it is agreed that a lack of social support from both sources is strongly correlated with lower levels of life satisfaction and higher levels of stress and depression (Yoon & Lee, 2007; Kim, 2003).

Both actual social support (measure of social network) and perceived social support (perceptions of adequacy) are important dimensions of social support and directly linked to life satisfaction among the elderly (Aquino et al., 1996). But there is no clear conclusion of which aspect of social support is a more reliable predictor of well-being in old age. Antonucci (1983) pointed out that perceived social support is a subjective self-report assessment. People who report positive social support are more likely to report positive outcomes such as life satisfaction and well-being. On the contrary, measures of quantitative questions, such as frequency, can be objective and can be a standard measure suitable for all groups. Those who hold the different opinion argue that "more does not necessarily mean better" (Whittaker & Tracy, 1990). As noted by Lowenstein et al. (2007) and Hernández-Plaza et al. (2006), social support can be burdensome to the individual sometimes. Therefore, the balance between support provided and received, or the density of

social network should be crucial aspects of well-being, and the importance of social support cannot be overestimated.

Psychological Resources

Besides social demographic factors and psychosocial constructs, psychological resources developed through the life span (see Table 2.2) are considered to be significantly related to life satisfaction. Studies focusing on this domain provide different perspectives. Scholars thought that objective life conditions are not strong enough in explaining subjective well-being among the elderly because they do not take older people's personal experience into account, and may vary according to the vulnerabilities, anxieties, and strengths of older individuals (Ardelt, 1997).

On the contrary, psychological resources accumulated throughout life will not change according to circumstances older people encounter (Ardelt, 1997) and they will promote a sense of control, coping and adaptation (Windle & Woods, 2004), which in turn has a positive impact on the well-being of an older person. Findings have confirmed a high and positive relationship between psychological resources and life satisfaction. For example, a 40-year follow-up study by Ardelt (1997) revealed that a lifelong accumulation of wisdom has a strong and significant positive impact on life satisfaction for both women and men. Davis and Friedrich (2004) pointed out that with the greater knowledge of aging comes higher life satisfaction.

In studies of immigrants' life satisfaction, postmigratory experience has been taken into account. According to Kim (1998), there are three post-migration adjustment stages related to level of life satisfaction over time: the exigency stage, the resolution and

Table 2.2 *Summary of Psychological Resources*

Author & date	Concept	Definition of concept
Rotter, 1966; Selm, Sam, & Oudenhoven, 1997 Abu et al., 2002;	Locus of control	A belief as to whether a person feels their life is controlled externally by luck, fate, or the behavior of others, or internally through their own behavior and competence.
Pearlin et al., 1981 Sam, 1998	Mastery	The extent to which a person perceives control over events and situations.
Roseenberg, 1965	Self-esteem	Sense of worth/confidence/self-respect.
Ryff, 1989; Windle & Woods, 2004	Environmental mastery	The extent to which a person feels capable of managing the external world.
Ardelt, 2000	Wisdom	Cognitive, affective and reflective personality qualities.
Rutter, 1995	Resilience	Psychological strength or mental resistance
Bandura, 1977	Self-efficacy	The extent to which a person perceives they can succeed at what they want to do.
Kobassa, Madi, & Kahn, 1993	Hardiness	People under stress who have a greater sense of control, commitment and challenge will stay healthier than people who are less hardy.
Pinquart & Sörensen, 2000	Competence	Skills to manage daily life, including basic competence (shopping) and expanded competence (leisure activities).

Davis & Friedrich, 2004	Knowledge of Aging	Aging knowledge in the physical, psychological, and social domains

Note. Summary based on "Variations in subjective wellbeing: the mediating role of a psychological resource", by G. Windle, and R. T. Woods, 2004, *Aging & Society, 24*

the optimism stage, and the stagnation stage. Life satisfaction improves with more confidence and mastery gained in the new environment, and reaches a high level around the fifteenth year after migration. After that, life satisfaction remains flat or even decreases. Vohra and Adair (2000) pointed out that after immigration, people compare themselves to various referents (e.g., what you have now vs. what others have; what you expected at the time of immigration vs. what you imagine you could have had in your original country). The comparison process contributes to their judgment of life satisfaction. Their study of Indian immigrants in Winnipeg confirmed that immigrants' perception of their own life situation and others is more important than their level of accomplishments, material wealth, or educational and professional attainments. In a study of Caribbean immigrants, Murphy and Mahalingam (2006) concluded that the disruption of former social networks, loss of professional status along with temporary or protracted downward mobility, clashes in cultural values, and the perception of the host country as alien and hostile are some factors that lead to psychological dysfunction among immigrant population. They suggested that perceived congruence between premigratory expectations and postmigratory outcomes, especially in social support and economic situation, is positively associated with life satisfaction.

Interrelationships among Domains

As Fernández-Ballesteros et al. (2001) suggested that the relationship between socio-demographic and psychosocial factors can be inferred, the interrelationships among different domains have drawn much attention in studies of life satisfaction (Abu-Bader et al., 2002; Pinquart & Sörensen, 2000; Windle & Woods, 2004).

Commonly, a direct relationship is accompanied by an indirect relationship. Riddick and Steward (1994) pointed out that through leisure activity participation, perceived health and income have an indirect positive effect on life satisfaction. A proposed structural equation model by Fernández-Ballesteros et al. (2001), combining variables from different domains, confirms that social-demographic factors not only have a direct influence on life satisfaction, but also have an indirect influence through psychosocial variables. Aquino et al. (1996) suggested that perceived social support mediates the relationship between employment and life satisfaction. Employing the elderly will lead to higher levels of perceived social support, which in turn leads to higher levels of life satisfaction. The mediating effect of psychological resources (environmental mastery) on the relationship between potential age-associated 'risk' factors (housing problems and physical functioning) and life satisfaction has also been tested and confirmed in Windle and Woods (2004)'s study.

Wynne and Groves (1995) proposed a life span model to understand the impact of different variables on life satisfaction in later years. In this model, independent variables included perceived health, SES, interpersonal relationships, leisure participation, attitude and retirement satisfaction (RS). Life span refers to different development stages: early childhood, play age, school age, adolescence, young adult, maturity, and old age. The main purpose of the model is to examine how variables changed throughout the life span, and how they contribute to life satisfaction in later life. Besides, their unique contribution is their organization of the variables according to Maslow's hierarchy of needs framework (Figure 2.2). The pyramid helps to explain individual difference in satisfaction.

Figure 2.2 *Maslow's Hierarchy of Needs Framework*

A pyramid divided into six horizontal levels. From top to bottom:
- RS
- Attitude
- Leisure participation
- Interpersonal Relationships
- Socioeconomic level
- Perceived Health
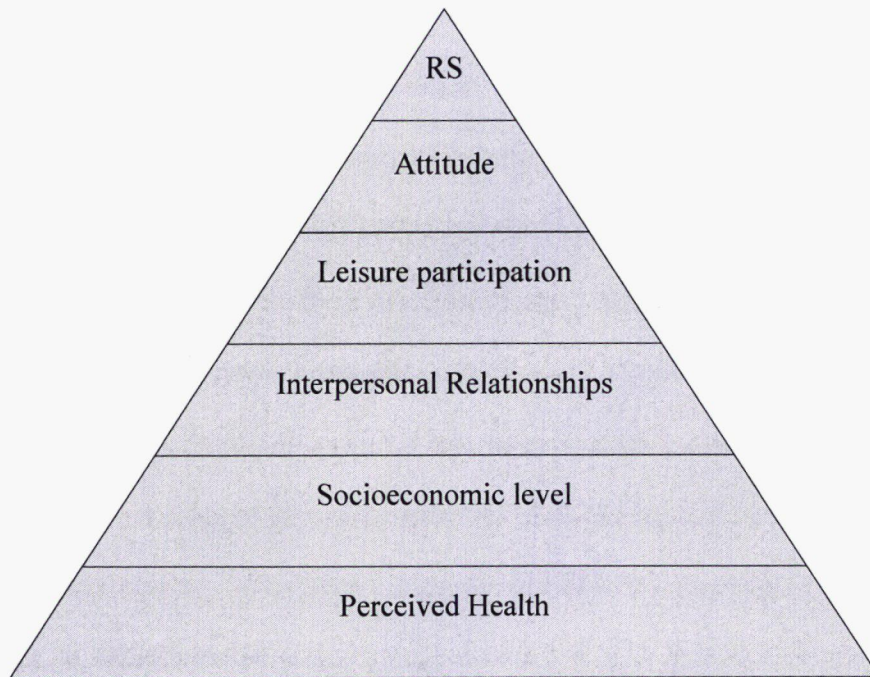
Consideration of Statistical Analysis Methods

As discussed previously, differing means of measurement (quantitative vs. qualitative; global life satisfaction vs. multidimensional life satisfaction; and general measure vs. elderly-specific or cultural-oriented measures) and a large cohort (55+) lead to different findings. Furthermore, different statistical analysis methods (univariate analysis/correlation vs. multivariate analysis/regression or factor loading) result in inconsistent results. Chou and Chi (1999) found that many variables (e.g., health, education, and financial satisfaction) are bivariately correlated with life satisfaction, while the effects decrease or disappear in multivariate models which take other variables into consideration. Windle and Woods (2004) pointed out that univariate analysis of the relationship between different variables and subjective well-being has a "lack of explanatory power of a predictive model" (p.596). Therefore multivariate approaches should be used to understand the influences of demographic, social and economic variables on subjective well-being. For example, men report a higher level of life satisfaction than women, but while controlling for age, marital status, education and income, the significant difference disappears (Fernández-Ballesteros et al., 2001). Hsieh's review (2005) also found that the relationship between income and subjective well-being becomes less apparent in multivariate context.

Studies of Older Chinese People

With the aging of the Chinese population and the very different social cultural norms compared to Western countries, increasing attention has been given to the older Chinese people in studies of well-being or life satisfaction. Several studies on the life satisfaction of Chinese people have been conducted in mainland China (Li & Liang, 2007; Zhang & Liu, 2007; Zhang & Yu, 1998), Hong Kong (Chong, 2007; Cheung & Kwan,

2006; J.J. Lee, 2005), Taiwan (Lu & Chang, 1997; Ku et al., 2008), and Canada (Chappell, 2005; Lai & McDonald, 1995). Cross-national comparison (Hong Kong, mainland China, and Canada) is also available although very rare (Chappell et al., 2000). These studies still focus on the correlation and predictors, but emphasis has been given to the question: What does life satisfaction mean to Chinese within the context of Chinese culture?

Governed by Confucian culture values, Chinese society places a high value on children's and family support in older adult's life satisfaction (Zhang & Liu, 2007). In examining the urban population in Beijing, mainland China, Zhang and Yu (1998) suggested that family relations and family care are two essential factors in maintaining Chinese elderly life satisfaction in mainland China. It is also confirmed in Zhang and Liu's study (2007), that the childless elderly are less satisfied with their life. However investing in education in early life, economic security and medical insurance in later life will mediate the effect of childlessness on life satisfaction. For older Chinese in Hong Kong, belief in children's support in old age was also the most contributory variable to the level of life satisfaction (J. J. Lee, 2005).

Studies focusing on China's older population switch their emphasis to the unique Chinese context, while they still tend to generalize that for older Chinese, predictors of life satisfaction are consistent with other groups, and findings in China are comparable to those in Western studies (Chappell et al., 2000; J. J. Lee, 2005; Zhang & Yu, 1998). Zhang and Yu (1998) found that life satisfaction is significantly predicted by health and financial status among both outpatient and community elderly in Beijing. For older Chinese in Hong Kong, better self-reported health status and a good walking ability are the most contributory variables to the level of life satisfaction (J. J. Lee, 2005). For those who live in

Canada, activity level, general health, psychological health, social support, self-esteem, and personal control have been found to be significantly correlated with life satisfaction (Lai, 1992; Lai & McDonald, 1995). In a comparative study of older people in three different locations - Vancouver, Hong Kong, and Shanghai - health, social support, and socioeconomic status were common predictors of life satisfaction. Different levels of life satisfaction among locations are also confirmed. People who live in Vancouver reported the highest level of life satisfaction (Chappell et al., 2000).

Critical Review of Previous Literature on Life Satisfaction

Summarizing what had been reviewed above, there are four main problems existing regarding the research on life satisfaction.

First, due to the different theoretical models adopted, the larger cohort of 55 years and older, inconsistent measurements, and different statistical analysis techniques, findings on predictors of life satisfaction are sometimes incomparable or sometimes contradictory. The effect of demographic variables on life satisfaction is the most arguable one. The interrelationships among different variables, such as demographic, social, health, and psychological needs to be further explored. Besides, a longitudinal study of life satisfaction is also needed regarding the reliability of life satisfaction.

Second, there is lack of qualitative examination of life satisfaction among older Chinese in both Chinese and Canadian contexts. Little is known about what exactly life satisfaction means to elderly. Especially under China's cultural system, it is not very clear whether the meaning of life satisfaction is the same as the meaning in Western cultures. That results in the difficulty of applying the existing measurement or application of findings in Western societies.

Third, there lack of a validated life satisfaction measurement, especially for older Chinese people. The Chinese Aging Well Profile (Ku, Fox, & McKenna, 2008) can be regarded as the first attempt in building up the measurement of subjective well-being for Chinese older adults (50+). Its validity and reliability need to be further confirmed with other older Chinese populations other than Taiwan.

Fourth, cultural variations or cross-cultural factors have been left behind (Hsu, 2007; Iwamoto et al., 2003). Especially in studies of sub-cultural groups or immigrants, not taking traditional homeland culture into account has been doubted by Chappell (2005). This will be the focus of this study.

In the study of Chinese elderly, it should be noted that their unique perspective and cultural background should be taken into consideration. Aging in the traditional Chinese culture is more positive. Seniors are valuable and deserve care and respect (Chi et al., 2001). They emphasize the traditional importance of social ties (Chappell et al., 2000). On the contrary, aging in Western culture is more negative (Chi et al., 2001). Elders in Canada emphasize materialism and capital (Chappell et al., 2000). Western cultures tend to value independence, including independence among the elderly (Iwamoto et al., 2003).

When Chinese elderly people are exposed to Western culture, what does life satisfaction mean to Chinese elderly, and what changes occur after they arrive in Canada? How does traditional culture affect older people's lives and to what extent? Further research needs to be done not only with Chinese but also with other sub-cultural groups.

Edwards and Lopez (2006) pointed out that it is important to identify and nurture cultural values and personal strengths in people of colour. Strengths vary according to context or cultural background, and may be influenced by certain within-group differences

such as acculturation level. Study of within-group variability in the experience of life satisfaction will provide a more balanced and detailed portrait of functioning in elderly people. It will be the focus of this study.

Acculturation

"The aftermath of emigration…has often been associated with hardships, difficulties and misery as migrants struggle to deal with their multiple losses (e.g. of culture, of social support network, of property) and the stresses of acquiring new values and learning a new language amidst prejudice, hostilities and discrimination" (Sam, 1998, p. 5).

The sociocultural changes in the past 200 years have led to the phenomenon of acculturation (Trimble, 2003). Acculturation is rooted in anthropology concerning colonial and indigenous people (Berry, 2006), and can be dated back to 1880 in explaining changes in Native American languages (Rudmin & Ahmadzadeh, 2001). Since the 1930s, it has been widely applied in the study of social change and cultural contacts between different communities (Navas et al., 2005). Besides, acculturation has been studied extensively at both the cultural level (Redfield et al., 1936) and psychological level (Graves, 1967).

Definition

The earliest definition of acculturation, called the classic definition, was brought forward by Redfield, Linton, and Herskovits in 1936. Acculturation "comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups" (p. 149). Under this definition, acculturation is one aspect of cultural change at a group level. Both dominant and non-dominant groups affect and are affected by the intercultural contact (Pfafferott & Brown, 2006).

In 1967, Graves added a new dimension, "psychological acculturation", into the broad concept of acculturation. Psychological acculturation refers to "changes in the ideational order" (p. 337), i. e., beliefs, attitudes, and values held by a group's members. Berry (2006) further elaborated it as "changes in an individual who is a participant in a culture-contact situation, being influenced both directly by the external culture, and by the changing culture of which the individual is a member" (p. 545). This concept focuses more on individual level change.

Nowadays, the direction of current study of acculturation has shifted from the degree of immigrants' immersion into the new culture to "the selective and multidimensional nature of the immigrant experience and process" (Thomas & Choi, 2006, p. 124). Different definitions of acculturation have been adopted in different studies. Suinn (2009) concluded that the common point of all the definition is that "acculturation is viewed as a process of change leading to certain outcomes" (p. 4). Besides, acculturation has been widely recognized as both an individual-level and group/community-level phenomenon (Le Sage & Townsend, 2004), and focused on an interactive learning process between an individual and a host culture or society (Miville & Constantine, 2006). Franzini and Fernandez-Esquer (2004) described the process as "a person raised in one culture enters the social structure and institutions of another, and internalizes the prevailing behaviours, attitudes and beliefs of the new culture" (p. 2004). As a result, the most highly valued elements of the host culture become institutionalized by immigrants through acculturation (McPherson, 1998). Therefore, it is concluded by Marsiglia et al. (2005) that acculturation "involves a kind of socialization into mainstream conceptions of ethnicity and

a reorientation that balances two conflicting needs—to preserve the culture of origin and yet become part of the new culture" (p. 89).

Models of Acculturation

The interaction of two cultures can have several potential possibilities: one culture or the other predominates, they co-exist as biculturalism, or both are diminished (Rudmin & Ahmadzadeh, 2001). Sharing the idea, there are two distinct theoretical models of acculturation, unidimensional and bidimensional, to explain how individuals adapt to environmental change (Cabassa, 2003).

Under a unidimensional model (e.g., Gordon's one-dimensional assimilation model, 1964; Szapocznik, Kurtines, and Fernandez's unidimensional model, 1980), acculturation can be seen as a continuum with the original culture and host culture as two extremes. The meaning of acculturation is the complete assimilation of behaviors, beliefs, and values of the host society (Reichman, 2006). The process of acculturation is a linear one with knowledge, attitudes, and behaviors changed to conform to the characteristics of the host culture (Franzini & Fernandez-Esquer, 2004). While people move towards the host culture, they lose aspects of their original culture. Or the process can be described as moving from "low acculturation", retention of original culture, to "high acculturation", adoption of host culture (Suinn, 2009). Under this model, it is immigrants' own inability to become assimilated in the host society that results in adaptation problems (Navas et al., 2005). The unidimensional model is limited in representing "true biculturation... the attainment of high adherence to native and host cultures" (Chung, Kim, & Abreu, 2004, p. 67).

A bidimensional model (e.g., Berry's two-dimensional model, will be discussed later) suggests that each culture can be perceived as an independent dimension/continuum

(Chung et al., 2004; Reichman, 2006). Rather than a linear progress, it entails mutual existence of both original and host culture (Navas et al., 2005). Immigrants' ethnic cultural orientation is independent of their orientation towards the host culture (Chia & Costigan, 2006). Instead of simply getting rid of the original culture, immigrants select, shift, and modify to adapt to the new environment (Thomas & Choi, 2006). This model emphasizes a unique contribution from each culture to identity formation and maintenance (Ward, 2006). One major shortcoming of this model is the emphasis on the minority or immigrant group, while neglecting the host's attitudes (Liu, 2007).

To overcome the above mentioned shortcoming, the bidimensional model has been further understood as a multidimensional model by adding in other personal traits (Berry, 2003; Berry, 2006; Reichman, 2006) and domains, such as behavior, cultural identity, knowledge, language, and values (Zea, Asner-Self, Birman, & Buki, 2003). It is believed that not all individuals undergo acculturation in the same way, even from the same cultural group (Berry, 2006). Individual variables, such as gender, age, education, English ability, attitudes and cognitive style, and social variables, such as contact, social support and status, will affect acculturation (Berry et al., 1987). For example, there was a general assumption that younger generations were more likely to be acculturated into other norms and values (Lee et al., 2004; Yamada et al., 2006). The reason lies in two aspects: first, older adults were more likely to maintain the original culture and to have more difficulty or resistance accepting the new culture; secondly, a decline in cognitive ability may hinder rapid adjustment to the new cultural environment (Yamada et al., 2006). Acculturation also varies in different domains. For example, language acquisition may proceed faster than other changes, such as changes in beliefs about health and illness (Reichman, 2006).

The unidimensional model and the bidimensional model have both been much critiqued. Many studies or reviews have conceptually compared the two models, but there is no consistent agreement on which one is better. As Flannery, Reise, and Yu (2001) suggested, there may not be a better model, only a model which better matches the research topic and research population. Their empirical comparison recommended the unidimensional model as an economical proxy measure and the bidimensional model as a full theoretical investigation tool.

Berry's Two-dimensional Model

Berry (1987, 2001, 2006)'s two-dimensional model with four acculturation strategies (Figure 2.3) serves as a turning point from a unidimensional to a bidimensional perspective. According to this model, there are two basic issues that migrants face during acculturation: maintenance of heritage culture and maintenance of relationship with the host society. Four acculturation strategies: integration, assimilation, separation, and marginalization, derive from the two issues.

When an immigrant individual devalues maintenance of his or her cultural values and seeks interaction with other cultures, the assimilation strategy is preferred. Immigrants satisfied with their adaptation incorporate more elements from the host culture, such as interpersonal associations, language, values, and practices (Oh, Koeske, & Sales, 2002). In contrast, separation implies sticking to the original culture and avoiding interaction with other groups or cultures. The integration strategy refers to a positive attitude in

Figure 2.3 *Four Acculturation Strategies Based upon Two Issues in Ethnocultural*

Groups

Issue 1: Maintenance of heritage culture and identity

+ ⟶ —

Issue 2:   +

Relationships   Integration   Assimilation

Among groups

Sought   Separation   Marginalization

—
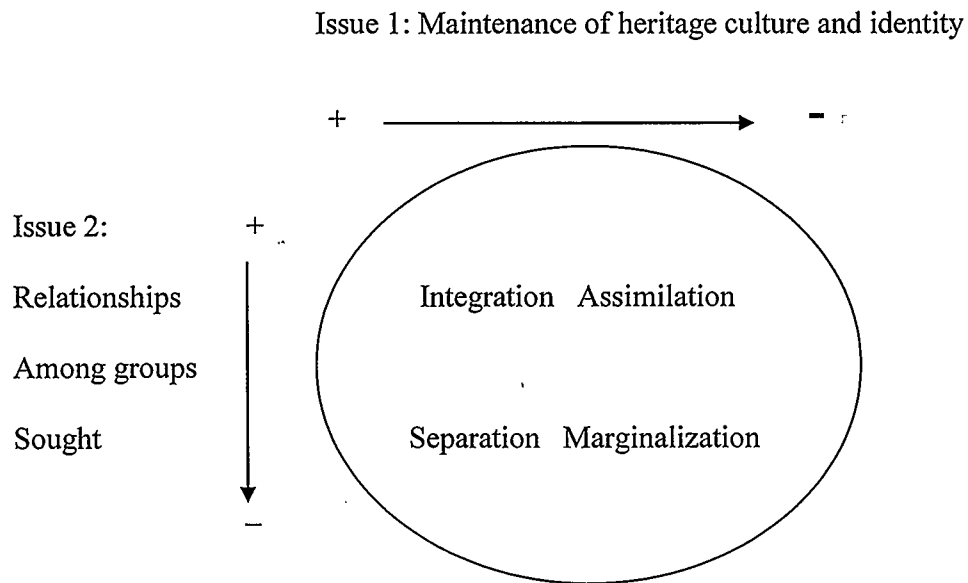
Note. From "Acculturation" by J. W. Berry, 2006. In J. E.Grusec (Ed.), *Handbook of*

Socialization: Theory and Research (pp. 543-558). New York, NY: Guilford Publications,

Incorporated.

maintenance of one's cultural heritage as well as interaction with members of the host society, whereas marginalization involves either devaluation or rejection of one's cultural heritage or avoidance of interaction with members of the larger host society. Many empirical studies have confirmed that the model is fit for different cultural groups, including Chinese Canadians (e.g., Chia & Costigan, 2006). It is a consistent finding that integration is the most common acculturation strategy adopted by immigrants, while marginalization is the least preferred (Chia & Costigan, 2006; Liu, 2007; Navas et al., 2005; Pfafferott & Brown, 2006; Sam, 1998). It is also found that integration is more strongly associated with life satisfaction in the case of minority members (Pfafferott & Brown, 2006). Integrated people show fewer psychological problems (Chia & Costigan, 2006) and demonstrate better psychological and sociocultural adaptation (Ward, 2006) than people who choose other type of acculturation strategies. However there are some disagreements in the literature. Ma (2007) suggested that integration and assimilation should be encouraged and emulated in a globalized world. Whereas, a study by Tony (1996) pointed out that dissatisfaction with one's current life may be related to adoption of the assimilation or marginalization attitudes of acculturation. Oh et al. (2002) further pointed out that an attempt to operate in parallel cultures, greater assimilation to host society's culture and maintaining identification, traditions, and values with own culture, carries the risk of increased stress and depression. A study of Chinese-Canadians showed that assimilation is the least preferred acculturation strategy (Chia & Costigan, 2006).

One major critique about the model is its assumption that immigrants groups and individuals have freedom in choosing acculturation strategies. The assumption places the emphasis of acculturation on the minority or immigrant group, however, individual

members of the host society and their attitudes are overlooked (Liu, 2007; Pfafferott &

Brown, 2006). The *Interactive Acculturation Model* (Bourhis et al., 1997) and the work of

Piontkowski and his colleges are typical of attempts to combine the unidimensional and

bidimensional models (See Navas et al., 2005, for a review of the existing acculturation

models).

<center>*Measurements and Common Indicators*</center>

Measurements

Given the importance of acculturation in psychological and cultural studies of

immigration populations, much effort has been made to develop or finalize a standardized

acculturation measurement. The existing measurements of acculturation vary from single

index to multidimensional measures (Liebkind, 2001; Yamada et al., 2006).

Multidimensional measures have been developed mainly for specific ethnic groups, such as

the Short Acculturation Scale for Hispanics (Marin, Sabogal, VanOss, Otero- Sabogal, &

Perez-Stable, 1987), the Acculturation Rating Scale for Mexican Americans (ARSMA;

Cuellar, Harris, & Jasso, 1980), or the Asian American Multidimensional Acculturation

Scale (AAMAS; Chung et al., 2004) for Asian people.

An examination of related literature reveals that there are three different approaches

in designing the measurements: acculturation models, conceptual patterns, and individual

functioning domains.

Measures may vary under different acculturation models, or by the assumption of

how a person can acculturate (Liebkind, 2001; Zane & Mak, 2003). Generally speaking,

single index measures and unidimensional acculturation scales mostly follow the

unidimensional model. Single index measures use single variable/indicators like generation

status, language preference/use, place of birth, economic status, or length of residence, etc. (Deng & Walker, 2007; Liebkind, 2001). Unidimensional scales generally measure language use, values, occupational status, place of birth, and friendship patterns, with "traditional" and "host" as two ends along a continuum (Liebkind, 2001). Multidimensional measures involve more individual function domains, such as ethnic identity, religious beliefs, social relationships, knowledge about one's original culture and historical events, cultural pride, and attitudes toward sex roles, intermarriage, and family values/practices (Deng & Walker, 2007). But few of them really follow a multidimensional model, which enables two or more cultures to independently exist along various dimensions (Zane & Mak, 2003). Only those measuring "traditional" and "host" separately can be clarified under the bidimensional or multidimensional model.

Measures may vary according to conceptual patterns. There are two different ways to conceptualize acculturation, as a process or a state, in the literature. The former implies changes in beliefs, attitudes, values, behavior, etc. over time. Due to the difficulty of capturing the change, measurements have to adopt time-related variables, such as length of residence or generation status to capture the dynamic process. This approach assumes acculturation to be a linear process. Those who view acculturation as a state often focus the measures on the amount or extent of acculturation at a given moment, which dominates the existing measurements (Liebkind, 2001).

Measures may also vary according to different individual functional domains. Reichman (2006) posited that most studies attempt to measure three areas of individual functioning: behavioral, affective, and cognitive. The behavioral includes verbal behavior or language development (language use), customs, food preferences, and cultural

expressions. The affective area refers to emotions that have cultural antecedents, such as ethnic identity. The cognitive encompasses beliefs, ideas, and attitudes.

Though Miville and Constantine (2006) suggested that measures on behavior and attitude can be applied across ethnic groups, ethnic groups demonstrate intra-group differences (Deng & Walker, 2007). The choice of which domains should be assessed largely depends on the psychosocial characteristics of an ethnic minority population (Zane & Mak, 2003). According to Chia and Costigan (2006), study of Chinese-Canadian should focus on both internal and external domains of Chinese and Canadian dimensions. The former refers to the psychological aspects of an individual's cultural orientation, including knowledge of cultural values, identity achievement, and a sense of belonging. The latter refers to behavioral aspects such as language use and cultural practices. Very similar to their opinion, Deng and Walker (2007) pointed out that a specific measure for the Chinese is needed. After carefully examining the existing acculturation measures, especially for Chinese immigrants, they posited that a measure for Chinese should focus more on social interaction and psychological (value and attitudinal) dimensions. In addressing this concern, they developed an acculturation measure specifically for mainland Chinese who have lived in Canada for less than 10 years, which includes 7 dimensions: social interactions, language preference, self-construal, ethnic identity, gift giving and holiday celebration, food and community preference, and filial piety. Cronbach's alpha of 0.82 was reported in their study.

Though different approaches exist, one common understanding about acculturation is that it involves changes in behaviors, values, identity, attitudes, and knowledge (Kim, Ahn, & Lam, 2009; Ward, 2006). Besides, no matter how complex the measures are, the

principal goal is to "capture how individuals are adapting to a new cultural context" (Cabassa, 2003, p. 2003) or to differentiate between the dimensions of acculturation to host culture and culture of origin (Chung et al., 2004).

Common Dimensions

In one simple sentence, acculturation is a "bidirectional, multidimentional and dynamic" construct (Deng & Walker, 2007, p. 191). Reviewing the existing studies on measurement in the literature, especially studies on older adult populations, some common or important dimensions appeared to be length of residence, language use, ethnic identity, and cultural values.

Length of residence.

The length of residence represents the linear feature of individual acculturation (Reichman, 2006). A review by Chia and Costigan (2006) found that a longer length of residence in the host culture is related to a higher level of acculturation into the host culture among immigrants. This was echoed by Jung's study (1996) of Chinese adolescent immigrants, which found the duration of stay was a significant predictor of acculturation level. The shorter they lived in the United States, the less acculturated they were found to be. Also, fewer years living in the host country might lead to more cultural adjustment difficulties in the process of acculturation (Shim & Schwartz, 2007).

Furthermore, length of residence has been found to be associated with some other acculturation variables. Birman et al. (2005) found that length of residence was greatly related to all of the acculturation variables except ethnic identity. Participants' American language, identity, and behavioral acculturation appear to increase over time, while Russian language and behavioral acculturation decrease over time. A study by Statistics Canada

(2007b) shows that the length of residence was also related to the strength of immigrants' attachment to an ethnic group. Recent immigrants often settled close to family and friends, who are most likely of similar ethnic background. This may help in contributing to a strong sense of belonging to their ethnic group. That is consistent with findings in Shim and Schwartz's review (2007) that newly arrived immigrants seemed to hold strong native cultural values.

Language.

Due to the complexity of acculturation, researchers tend to assess acculturation with more easily measured components or proxies (Le Sage & Townsend, 2004). Language acculturation, the acquisition of and efficacy in using the host society's language as a home language (Ma, 2007), is easily observable (Torres & Rollock, 2007) and can capture the majority of variations in acculturation (Franzini & Fernandez-Esquer, 2004). Therefore it has been a commonly used indicator of acculturation. For immigrants, language acculturation is important for successful transition and adjustment into a new culture and society (Tran, Sung, & Huynh-Honhbaum, 2008), and has the potential of reducing the barriers and discrimination between mainstream groups and minority ethnic groups (Ma, 2007). Studies showed that language difficulty imposes significant limitation on Asian immigrants' participation in the social and cultural life of the host western society (Kim, 2003). It is more difficult for the elderly to learn and acquire a second language regardless of motivation (Tran, 1990). Not being fluent in English is an important reason for not seeking medical help when Asian immigrant elders want to save face by avoiding the embarrassment of communication difficulties (Mui et al., 2007).

The obvious disadvantage of the language acculturation measure lies in two aspects: lack of information about motivation and efforts to learn English or strengthen bilingual abilities over time (Yamada et al., 2006) and inability to capture the acculturation level as a whole (Reichman, 2006).

Ethnic identity.

Besides language acculturation, Oh et al. (2002) suggested that identity-based acculturation (e.g., personal and cultural identification with native culture) cannot be overlooked. Ethnic identity is an important factor to understanding the acculturation process as it takes place when immigrants come to a new society (Phinney, Horenczyk, Liebkind, & Vedder, 2001). Kim et al. (2009) also classified identity as one of the four dimensions of acculturation and even posit that acculturation and ethnic and racial identity are not clearly differentiated constructs in the literature.

Identity "involves recognition, categorization and self-identification as a member of a particular group" (Ward, 2006, p. 245). Ethnic identity refers to attitudes about one's own ethnicity or subjective sense of belonging to a group or culture (Phinney, 1990). Phinney et al. (2001) suggested that it is helpful to understand the relationship between ethnic identity and national identity (identity as a member of host society) using the two dimensions model of acculturation, which yields four identity groups: integrated identity, separated identity, assimilated identity, and marginalized identity. Their study confirms that an integrated identity is generally associated with higher levels of overall well-being than the other identity categories. Sam's study (1998) confirmed the two-dimensional model and suggests that it is possible to have a strong national identity without weakening in the ethnic identity. Ethnic identity accounts for 17% of the variance of life satisfaction, national identity

accounts for 13% of life satisfaction. Ward's (2006) study also revealed greater positive association between ethnic identity and life satisfaction.

Cultural value/belief.

Acculturation happens as a result of cultural contacts and has been featured as a cultural learning process (Torres & Rollock, 2007). Therefore, cultural values have been represented as a more profound level of adaptation than behavioral indicators (Zea et al., 2003). Berry (2006) suggested that a fairly comprehensive examination of an individual's cultural characteristics entails a complete understanding of acculturation. This examination enables researchers to understand where the person is coming from and to establish cultural features for comparison with the society of settlement. Phinney (1990) even suggested that cultural values are central to understand the identity of Asian Americans. A study of Korean American showed that stronger adherence to traditional home values predicted increased cultural adjustment difficulties (Shim & Schwartz, 2007).

Acculturation and Life Satisfaction

With the massive migration around the world, there is a dramatic increase in acculturation study among immigrant and refugee populations (Birman et al., 2005; Ward, 2005). It was believed that the acculturation process was important for people from ethnic groups in forming beliefs (such as health), choice of language, attitudes, and behaviour (Miville & Constantine, 2006). Acculturation played a potential role in reducing the barriers between minority ethnic groups and the mainstream ethnic group (Ma, 2007). Therefore, it was assumed that the more acculturated individuals made more positive adaptations in the host society (Berry & Sam, 1996). Also, acculturation might impact immigrants' health, mental health, adaptation, intergenerational relationships, and help-

seeking attitudes (Birman et al., 2005, Franzini & Fernandez-Esquer, 2004, Le Sage & Townsend, 2004; Lee et al., 2004; Torres & Rollock, 2007). Changes in these areas may have potential effects on the stability of one's overall life satisfaction (Sam, 1998). Therefore, the relationship between life satisfaction and acculturation can be inferred.

There are limited empirical studies that focused on the relationship between acculturation and life satisfaction. Ea (2008) pointed out that the need to facilitate foreign educated nurses' acculturation lies in the fact that those who have successfully acculturated to the host culture are likely to be more satisfied with their jobs and life. A study of 39 Arab-Americans found that greater acculturation was associated with general life satisfaction (Faragallah, Schumm, & Webb, 1997). Data in Vinokurov, Birman, and Trickett's study (2000) showed that acculturation was significantly related to life satisfaction among 206 Soviet Jewish refugees in the United States. A study of 55 Chinese adolescent immigrants showed that life satisfaction was significantly related to acculturation level. This may be because the more these adolescents acculturated, the closer they are to their acculturation ideal, which means integrating Chinese and American ways of life. In turn, they are more satisfied with their current lives (Jung, 1996).

Only a few of these studies have focused on the elderly population. However, significant relationship between acculturation and life satisfaction has been confirmed among different groups. A study of 127 Korean immigrants aged 60 years and above showed that life satisfaction increased with increased level of acculturation (Kim, 1997). Through interviewing 42 Hispanic-American elderly aged 55 years and above, Gueller (1997) found a nearly significant relationship between acculturation and life satisfaction.

Different opinions on the relationship between acculturation and life satisfaction exist too. Stephens, Stein, and Landrine (2009) posited that acculturation might result in a departure from traditional cultural values, which in turn negatively impacts life satisfaction. Similarly, in Graham (1997)'s study, a non-significant negative relationship between acculturation and life satisfaction was found. The author pointed out that it may be because respondents may have acculturated to the host society out of necessity while still not valuing the American culture and could be resentful.

Cuellar et al. (2004) found that for Mexican immigrants 45 years and older, the more they acculturated into the American culture, the more likely they are to report more symptoms of depression and health-related problems. Edwards and Lopez (2006) also confirmed that Mexican orientation was significantly related to high levels of life satisfaction among Mexican American youth. It is obvious that understanding the role of acculturation in life satisfaction is a way to explore within-group differences (Edwards & Lopez, 2006). At the same time, the within-group differences of acculturation levels will also affect well-being (Edwards & Lopez, 2006; Marin & Gamba, 2003; Zane & Mak, 2003).

Critical Review of Previous Literature on Acculturation

Acculturation is considered important regarding immigrants' adaptation to a new culture/society. Being one of the biggest immigration populations, the topic of acculturation of Chinese has drawn much attention from many scholars in different immigrant-receiving countries and social disciplines. But most of the acculturation studies focused more on adult immigrants, adolescents, or university students. There is a lack of studies on the elderly, and few studies in the literature examined the dynamic process among the Chinese

elderly population. Even fewer studies focused on the effect of acculturation on older Chinese immigrants, specifically as it pertains to overall life satisfaction. In addition, no studies have been conducted to test the applicability of available measures on elderly Chinese, not to mention a specific measurement designed for elderly Chinese populations. As Yamada et al. (2006) pointed out, the primary limitation of most acculturation measures is their lack of sufficient samples, especially older adults to provide evidence of their reliability and validity.

Furthermore, though acculturation has been studied extensively, dimensions of acculturation and measurements of acculturation have not been reached a consensus. There is still no standardized instrument that can capture its complexity (Le Sage, & Townsend, 2004). Different variables and measurements have been used to test the level of acculturation, even when the ethnic minority has the same origin. While we accept the concept that acculturation is a multi-dimensional process, most of the measurements still keep a unidimensional model. As Chia and Costigan (2006) pointed out, some studies may only focus on one domain of acculturation, such as language use; or they may focus on multiple domains but within only one dimension; or they may focus on multiple domains of both dimensions, while the results are sometimes simply collapsed into one summary score.

As a result, just like as Sage and Townsend (2004) suggested, it is important to advance the conceptualization and measurement of acculturation within the Chinese elderly population in understanding social and psychological demands. It is also important to use uniform acculturation measures that can assess multiple domains of acculturation, which will improve the validity and generalizability of study findings, and will also make acculturation studies more comparable and reproducible.

Conclusion

It is very clear from the literature that both life satisfaction and acculturation are extensively studied constructs. The importance of life satisfaction to both immigrants themselves and the host society has drawn attention from researchers. At the same time, evidence has shown that the acculturation process is one way of adaptation for immigrants, and it will affect the behaviour and beliefs of members of ethnic groups. However, in spite of the interest in each one of them, relatively little research have been conducted to examine what the effects of acculturation could be on life satisfaction, especially among older adult populations.

Through review of the literature, some direct and indirect relations or interactions have been found between the two constructs. Besides, for older adult immigrants, the effects of aging on acculturation will further impact their life satisfaction. Therefore, it is worthwhile to explore the potential effect of acculturation on life satisfaction among elderly immigrants. Given the growth of aging Chinese populations in Canada, there is an urgent need to understand the relationship between life satisfaction and acculturation, as it will provide evidence for policy formation and service design and delivery.

CHAPTER 3: METHODOLOGY

This chapter provides an overview of the methodology of this study. Because

secondary data analysis has been adopted for this study, a brief description of the original

data set, including target population, sample size, and data collection is presented first. It is

then followed by the design of this study, including research questions and hypotheses, data

chosen, conceptualization of variables, measurement instruments, and method of analysis.

All related independent variables (demographic, social and health, and acculturation) and

the dependent variable (life satisfaction) are clearly identified to answer the research

question and test the hypotheses. A discussion of the limitations of the data and the method

of secondary analysis are also addressed in this chapter.

Research Design

This study adopted the method of secondary data analysis. With the permission of

the original researcher, the survey data set collected between the summer of 2001 and

spring 2002 (Lai, Tsang, Chappell, Lai, & Chau, 2003) has been used in this study. The

original research project was entitled *Health and Well Being of Older Chinese in Canada*. It

covered a wide range of topics, including physical and mental health status, Chinese health

beliefs, Chinese cultural values, ethnic identity, social support, life satisfaction, attitude

toward aging, and service utilization.

Original Study

Target Population

The target population in the original study was ethnic Chinese age 55 and older, in

seven cities: Victoria, Greater Vancouver, Calgary, Edmonton, Winnipeg, Greater Toronto,

and Greater Montreal. According to Statistics Canada (2003), 89% of the entire Chinese-

Canadian population lives in these seven cities. From the local telephone directories of these cities, 297,064 Chinese surname listings were identified. The use of telephone directories to identify potential participants is a well established method (Chappell, 2005), as well as using surnames to locate Chinese participants (Lai, 2005). However, using telephone directories and Chinese surnames as a sample framework has its own limitations. Older Chinese who do not own a residential phone line, those who may not answer the phone due to the language barrier, those who may not be using a traditional Chinese surname, and those who may have kept their telephone number unlisted, were likely excluded from the study (Lai & Chappell, 2006).

Sample Size

According to the size of the Chinese-Canadian population in each city and the estimated proportion of the population being 55 years and older, a subsample of telephone numbers was randomly selected by using the SPSS Version 11 random cases selection function. Telephone screening was then conducted by trained bilingual interviewers who were proficient in English and at least one major Chinese dialect (i.e., Cantonese, Mandarin, or Toishanese) to identify eligible participants. As a result, a total of 2,949 eligible participants were identified. For households with more than one eligible participant, only one was randomly selected through a roll of dice. As a result, 2,272 participants were chosen. The response rate was 77%, which is consistent with other nationwide population studies.

Data Collection

Eligible participants were invited to take part in a face-to-face interview, either at the participant's home or at one of the community organizations that collaborated with the research project locally. Interviewers were graduate students in social science or human service disciplines in local universities and community workers who had experience in conducting survey interviews in the Chinese community. All interviewers took part in a one-day structured training session conducted by the research team members.

Data collection was conducted through a verbally administered, structured questionnaire. The questionnaire was initially written in Chinese, and an English version was also prepared to meet the language need. To ensure language consistency, a standard forward–backward translation process was used. The original questions in Chinese were translated into English and then translated back into Chinese. In the interview, the participants could choose to answer either the Chinese or the English version of the questionnaire. It took 45 minutes to 1 hour to complete the questionnaire.

An advisory committee was formed by the original researchers to facilitate the implementation of the project and connect the research team with local service providers, particularly those working closely with the local Chinese community. Advisory committee members were also involved in informing older Chinese adults about this research. They approached Chinese-language television, radio, and print media to raise awareness among older adults and their family members. A national Chinese television network was involved in publicizing the launch of the study. Many of the local community partners involved in this study also helped to inform their Chinese clients and local communities about this study through their regular newsletters or publicity materials.

The Current Study – Secondary Data Analysis

Research Question and Hypotheses

To enhance the understanding of life satisfaction of aging Chinese immigrants in Canada and to explore the relationship between their acculturation and life satisfaction, the key research question in this current study was: What are the relationships between acculturation and life satisfaction among the aging Chinese immigrants in Canada across different age cohorts, 55-64, 65-74, and above 75, while taking into consideration the complicating effects of other demographic, social, and health variables? Under the framework of acculturation theory, five dimensions of acculturation were identified. As it is expected that more acculturated people would report higher life satisfaction, five hypotheses were derived to guide the data analysis of this study:

Hypothesis 1 Those who have been in Canada longer report a higher level of life satisfaction.

Literature showed that the length of residence represented the linear feature of individual acculturation (Reichman, 2006). A longer length of residence in the host culture was related to a higher level of acculturation into the host culture among immigrants (Chia & Costigan, 2006). With the increase of length of residence, other acculturation variables, such as host society's language, sense of belonging, and behavior would also be affected (Birman et al., 2005). Furthermore, length of residence was an important indicator of service utilization, which would increase the level of life satisfaction as well. Therefore, it is more likely that life satisfaction would be improved with the increase in length of residence.

Hypothesis 2 Those who have a higher level of English competency report a higher level of life satisfaction.

It was found that language had been commonly used as an indicator of acculturation for its simplicity and importance in immigrants' adaptation (Le Sage & Townsend, 2004; Tran et al., 2008). Being fluent in English was helpful for successful transition and adjustment into the new culture and society (Tran et al., 2008), and had the potential to reduce the barriers and discrimination between the mainstream groups and minority ethnic groups (Ma, 2007). We have reason to believe that higher English competence may enhance the level of life satisfaction.

Hypothesis 3 Those who report having a Western religion report a higher level of life satisfaction.

Few studies have used religious beliefs as an indicator of acculturation. It was claimed that religion was a missing factor in studying the life of recent immigrants (Yang & Ebaugh, 2001), especially elderly immigrants (Zhang & Zhan, 2009). However the importance of religion had been well documented in the literature. Religion had been identified as beneficial for coping with immediate negative or uncontrollable situations (Blaine & Crocker, 1995). Lee and Chan (2009) posited that religious/spiritual coping was found to be embedded with Chinese American older adults' values, faith, and cultural beliefs, and seemed to be an important factor in developing effective coping strategies. Research has confirmed that affiliation with religion has positive effects on mental and physical health (Yoon & Lee, 2007) and has led to more positive perceptions of health (Iwamoto et al., 2003). Religious ties were important sources of support for older people, and provided spiritual and fellowship benefits (Kropf, 2000). For elderly Chinese

immigrants, religious affiliation expanded social interaction opportunities, served to build a

strong social network, and increased the possibility of accessing formal services (Lai,

2006). Religion played a dual role in facilitating the assimilation of its members and

preserving ethnicity for immigrants (Yang & Ebaugh, 2001). It contributed to one's life

satisfaction significantly (Faragallah et al., 1997; Hunsberger, 1983; Yoon & Lee, 2007).

Religion can be regarded as one important aspect of culture. It should be included as a way

of cultural exchange and cultural adaptation during the process of acculturation. Coming

from a totally different belief system, it can also be inferred that for Chinese immigrants,

those who accept Western religious are more likely to accept the Western culture, and may

feel better in Western society.

Hypothesis 4 Those who have a stronger Chinese ethnic identity report a lower level

of life satisfaction.

Ethnic identity is an important factor to understand the acculturation process when

immigrants come to a new society (Phinney et al., 2001). In many cases, ethnic identity and

acculturation were used interchangeably (Cuellar et al., 1997). It has been confirmed that an

integrated identity was generally associated with a higher level of life satisfaction (Sam,

1998; Ward, 2006). Therefore, it is hypothesized that a stronger Chinese identity will be

associated with a lower level of life satisfaction.

Hypothesis 5 Those who report a stronger adherence to Chinese cultural values

report a lower level of life satisfaction.

Cultural values are an important dimension in the study of acculturation (Berry,

2006; Phinney, 1990; Zea et al., 2003). It has been confirmed that differences in the cultural

values of the host country and the home country often led to acculturation difficulties

among immigrants, and that stronger adherence to traditional heritage values predicted

increased cultural adjustment difficulties (Shim & Schwartz, 2007). Therefore, it is

hypothesized that a negative relationship exists between the degree of participants'

adherence to Chinese cultural values and level of life satisfaction.

Data Selection and Handling

Definition of Aging Chinese Immigrants

In this study, and in accordance with the original study, aging Chinese immigrants

was defined as those who are 55 years or older. From the original researcher's personal

experience and understanding of the Asian culture, being 55 years or older can be viewed

as elderly, and it should also be noted that the age of retirement in most public sectors is 55

and 60 years (Lai & Surood, 2009). Due to the emphasis on the immigrant population in

Canada, those who were born in Canada were excluded in this study. The final number of

cases for data analysis was 2,214.

Conceptualization and Operationalization of Variables

To answer the research question and to test the hypotheses listed above, the data

obtained from the primary study was used. Variables were selected based on their relevance

to the research questions and five hypotheses formulated under the framework of

acculturation. The dependent variable is life satisfaction. The independent variables

included are 1) demographic variables: age, gender, marital status, living arrangement,

country of origin, education, financial adequacy, personal monthly income, and

employment status; 2) social and health variables: social support (2 items), physical health

(PCS), and mental health (MCS), and 3) acculturation variables: religion, length of

residency, English competency, ethnic identity, and Chinese culture.

Dependent Variable

Life satisfaction.

Life satisfaction, "a cognitive evaluation of one's life situation" (Pinquart & Sörensen, 2000, p.187), was used to assess the overall life satisfaction of the participants. The single-item global life satisfaction measure, "How satisfied are you about your life as a whole right now", was adopted in the study. The reliability of this measure was discussed in Chapter 2. Participants needed to indicate their answer using the 5-point Likert scale from 1- very dissatisfied to 5- very satisfied. A higher score indicates a higher level of life satisfaction.

Independent Variables

Acculturation variables.

Acculturation is the key independent variable that reflects peoples' adaptation into the host culture. Based on the literature review, especially following Chia and Costigan's suggestion (2006) that both internal and external domains of Chinese and Canadian dimensions should be examined in the study of Chinese-Canadians, this study has adopted multi-dimensions to capture the participants' acculturation status: length of residence in Canada, English competency, religion, ethnic identity, and Chinese culture. Each variable represents different aspects of acculturation.

Length of residence was measured by asking participants to indicate the total number of years they have resided in Canada. Answers were then grouped into 4 categories: 0-5 years, 6-10 years, 11-20 years, and over 20 years.

Self-rated English competency, the ability of understanding and speaking English, was assessed by asking two questions: whether or not they were able to understand English

and whether or not they were able to speak English. Participants answered each question from three choices: not at all, a little, and very well. The scores to each question were summed to form the language competency index, ranging from 2 to 6. A higher score represented a higher level of English competency.

Religion refers to the beliefs, values, rituals, and behaviors that are shared with a community and transmitted over time (Nelson-Becker, 2009, p. 263). Religion was measured by one question, "what is your religion"? Participants needed to choose from "None", "Catholic", "Protestant", "Taoist", "Buddhist", "Ancestor worship", "Muslim", and "Others". For the purpose of this study, answers were grouped into three categories, "No religion"; "Western religion (Catholic, Protestant, and Muslim)"; and "Non-Western religion (Taoist, Buddhist, Ancestor worship)". Dummy variables, Western religion and non-Western religion, were also created when running the stepwise regression model.

Ethnic identity refers to attitudes about one's own ethnicity or subjective sense of belonging to a group or culture (Phinney, 1990). It was measured by one question, "Do you think of yourself more..."? Participants needed to choose one answer from "Canadian", "Chinese", or "Chinese-Canadian". Dummy variables, Chinese-Canadian and Chinese, were created for the regression model.

Chinese cultures refers to traditional Chinese cultural beliefs and values regarding language use, gender roles, interracial marriage, food and diet, and parent–child relationships (Lai & Chau, 2007). Participants were asked "how much do you agree or disagree" with traditional Chinese beliefs and values expressed in11 statements. A 5-point Likert scale ranging from 1(strongly disagree) to 5(strongly agree) was used to indicate response. Responses from the 11 statements were summed and divided to give a score

ranging between 1 and 5, with a higher score representing stronger adherence to Chinese cultural values. The original researchers constructed this measure by referring to previous literature and input from the community research partners. A Cronbach's alpha of 0.82 was reported for this measure (Chappell, 2005; Lai et al. 2007; Lai & Chau, 2007). Demographic variables.

In this study, demographic variables include: age, gender, marital status, living arrangements, country of origin, education, financial adequacy, personal monthly income, and employment status.

Age refers to the chronological age of the participants. It was measured by a self-reported question asking the participant their current age at the time of the study. Based on the answers, age was grouped as 55-64, 65-74, and 75 years and older.

The gender of the participants was grouped as male or female.

Marital status includes married or living common law, separated, divorced, single (never married), and widowed. It was grouped into married and not married (separated, divorced, single, widowed) for regression models.

Living arrangement referred to whether the participants resided alone or not. In this study, it was measured by asking participants "who are you living with now"? The answers could be: alone, spouse only, children and grandchildren and in laws only, spouse, children, in-laws and grandchildren, with other relatives or friends only, children, grandchildren, in laws, other relatives or friends, spouse and other relatives or friends, and with spouse, children, grandchildren, in laws, other relatives, and friends. As the distribution of the answers was skewed, this variable was grouped into living alone and not living alone when used for regression.

Country of origin is the place from where participants immigrated to Canada. For the purpose of this study, the answer was regrouped into mainland China, Hong Kong, and Taiwan and others. Dummy variables, Hong Kong and Taiwan and others, were created for regression models.

Education level has four groups: no formal education, elementary, secondary, and post-secondary and above. Participants were asked to choose from one of them.

Self-rated financial adequacy refers to the extent to which the participant perceived their own financial resources as adequate, and it was measured by the question "how well does your income and investments satisfied financial needs". The answer to the question fell into a 4-point Likert scale from 1-very inadequate, not very well, adequate to 4- very well, with a higher score indicating a more adequate financial situation.

The personal monthly income of the participants was measured by a question asking the participants to self report their personal monthly income. Based on the answers provided, it was grouped into 4 categories: less than $500; $500 to $999; $1,000 to $1,499; and $1,500 and above.

Employment status was measured by a self-reported question, with the answers: not working, working part-time, and working full time. When used for regression, only two groups, working and not working, were used.

Social and health variables.

Social support refers to emotional and instrumental assistance obtained from one's social networks (White & Cant, 2003). The social support variable was measured by two questions: "Do you have someone you can trust and confide in" and "Do you have someone to provide care when ill or disabled". Participants needed to choose from "yes" or "no".

Health is defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease, or infirmity" (WHO, 1947). The health variable was measure by PCS (Physical Component Summary) and MCS (Mental Component Summary) in this study. A Chinese version of the SF-36 (the medical outcomes study 36-item Short Form) was used to measure both general physical and mental health. SF-36 is a standardized instrument that measures health outcomes (Mui et al., 2007), and has been adapted and translated into Chinese to fit the Chinese cultural context (Lai et al., 2003). The two scores, PCS and MCS, range between 0 and 100, and represent the status of general physical and mental health respectively, with higher scores representing better health.

Methods of Data Analysis

SPSS 16.0 was used for data analysis. To answer the research questions, data analysis was conducted in the following order: descriptive analysis, bivariate statistics (T-test, Pearson's correlation, one-way ANOVA, Chi-square), and stepwise multiple regression analysis.

The cutoff value in this study was set at .01 level based on the large sample size (N=2,214). P-value reflects the strength of evidence used to reject the null hypothesis (Whitley & Ball, 2002). When the sample size is too large, then the probability of seeing a difference by change is bigger, the evidence used to reject the null hypothesis is not considered strong enough. It was found that the 0.05 cutoff value performs better in sample size between 100-800, while it tends to over accept at N≥800 (Chen, Curran, Bollen, Kirby & Paxton, 2008). Thus, larger samples generally result in narrower confidence intervals and

smaller p value (Whitley & Ball, 2002). In this study, a predictor was considered to be significant when the P-value was smaller than 0.01 (2-tailed).

First, descriptive analysis on means, standard deviations, percentage and frequency distributions was used to examine demographic information of the participants, level of social support, status of health, acculturation, and level of life satisfaction across three age cohorts.

Second, bivariate statistics were used for purpose of comparison and testing of correlates. Pearson's Correlations was used to test the significant relationship between age, financial adequacy, PCS, MCS, length of residence, English competence, Chinese cultures, and life satisfaction. Independent *t*-tests were used to examine the group differences in life satisfaction, such as gender (female and male), marital status (not married and married), living arrangement (not living alone and living alone), employment status (not working and working), having someone you can trust and confide in (no or yes), and having someone to provide care when ill or disabled (no or yes). For variables with three or more groups, such as country of origin, religion, identity, education, one-way ANOVA was use to examine the group difference on life satisfaction. In addition, one-way ANOVA and Chi-square were used to test the significant difference among each variable across the three age cohorts.

Finally, stepwise multiple regression analysis of life satisfaction was conducted to identify the most important predictors of life satisfaction from all variables, and was used to test the contribution of the acculturation variables to life satisfaction when controlled for the confounding effects of other independent variables. Variables were considered to be important at 0.01 significant level. No co-linearity among all the variables was found. All

variables, except personal monthly income and length of residence (four groups), were put into the regression model.

<div align="center">Advantages and Disadvantages of Secondary Analysis</div>

This study adopted secondary data analysis, a method in which data are collected for given purposes other than the present research questions (Margaret, & Wendy, 2003). This method can be used for exploring new research questions under a different theoretical framework or re-analysis of data for the purpose of answering the original research questions with better statistical techniques (Smith, 2008). It is a useful method for new researchers to develop questions appropriate for analysis through existing data (Coyer & Gallo, 2005). Using secondary data is considered to be efficient, as it is convenient, time-saving, and is cost effective (Cordraya, 2002; Smith, 2008). Using secondary data can further contribute to the value of the original data set (Bullock, 2007). In addition, ethical issues regarding the access of personal information is minimized as the researcher would not be able to access personal information from the original data set that may compromise an individual's confidentiality (Coyer & Gallo, 2005).

While the data set used in this study is considered to be very comprehensive and well- representative of the older Chinese people in Canada, limitations of using secondary data analysis should be addressed. Secondary data are collected for given purposes other than the present research questions (Coyer & Gallo, 2005; Margaret & Wendy, 2003). Validity of the data is sometimes unknown in secondary data analysis (The Gale Group, 2001). The biggest concern about this method is the possible lack of compatibility between the primary data and the new research question. One of the first steps the researcher needs to do is to check the congruence between the operational definition and conceptual

definitions of the variables (Coyer & Gallo, 2005); and the fit between the measurement and research questions posed (The Gale Group, 2001).

Data reliability or accuracy is another concern due to miscoded data and deviant cases (The Gale Group, 2001). There is less control over the construction of variables for the researcher who uses secondary data. Furthermore, he/she knows little about the manner (e.g., selection biases, sample attrition, and missing data) and circumstances in which the data were collected (Collins Dictionary of Sociology, 2006; Cordraya, 2002). To enhance the reliability of the data, researchers are advised to use scatter-plots of variables to identify outlying or deviant cases and possible miscoded data (The Gale Group, 2001).

In conclusion, the use of secondary data analysis as a research strategy needs to be done with caution. Researchers need to think more carefully about the fit between the data and the proposed research questions. Extra statistical analysis techniques, such as scatter-plots of variables, imputing data for missing value, are needed to ensure the reliability of the data.

Conclusion

This is a secondary data analysis study. Using acculturation theory as the underlying theoretical framework, this study used multi-dimensions of acculturation to examine the effect of acculturation on life satisfaction. Chinese immigrants 55 years or older who were born outside of Canada in the original study were included in this study. In total, 2,214 cases were selected. Relevant variables to the main research question and hypotheses of the current study were chosen and conceptualized. SPSS 16.0 was used for descriptive, bivariate, and multivariate analysis. Findings of data analysis are presented in the next chapter.

CHAPTER 4: RESULTS

This chapter reports the research findings of the study. It begins by presenting the results of descriptive analysis on all dependent and independent variables. Results are presented as mean scores or percentage according to variables within each age group. Connections among different variables are discussed. Group differences are also addressed. The second part consists of the results for the bivariate analysis on the relationship between life satisfaction and the independent variables. Findings based on Pearson correlation, t-test, one-way ANOVA, or Chi-square analysis are presented. The third part is the results of the multiple regression analyses. Significant correlates of life satisfaction and their contribution to the variance in life satisfaction are identified according to stepwise regression models. The fourth part of this chapter discusses the results of hypotheses testing, based on the findings on the relationship between life satisfaction and acculturation variables obtained through both bivariate and multivariate analyses.

Descriptive Analysis

Descriptive Statistics of Demographic Variables

Table 4.1 presents the descriptive findings of demographic variables included in this study. The findings enable comparison not only within different groups in this study, but also with data and findings from other sources or studies. Also, connections among different variables can be found through descriptive statistics.

As shown in Table 4.1, the mean age in the present study was 69.74; 43.9% of the participants were male. The majority (64.5%) of the participants in the age group 75 years and older were women, because women have a higher life expectancy than men (Statistic Canada, 2007). Seen from the composition of each age cohort, it can be said that the sample

Table 4.1 *Descriptive Statistics of Demographic Variables*

	All Cases N=2214	55-64 years n=677	65-74 years n=906	75 years above n=631	Statistic	P-Value
Demographic Variables	100%	30.6%	40.9%	28.5%		
Age, mean	69.74	59.91	69.48	80.67	F= 5880.300	.000***
Gender—Male (%)	43.90%	43.4%	50.2%	35.5%	χ^2 =32.816	.000***
Marital status (%)						
Married or living common law	66.20%	86.60%	68.50%	41.00%		
Separated	2.00%	1.20%	1.90%	2.90%		
Divorced	1.90%	2.70%	2.50%	0.20%	χ^2 =339. 625	.000***
Single (Never married)	1.40%	1.90%	2%	0.60%		
Widowed	28.60%	7.60%	26%	55.30%		
Living arrangements (%)						
Alone	13.80%	4.30%	10.40%	28.90%		
Spouse only	21.60%	21.40%	25.60%	16.00%		
Children and grandchildren and in laws only	22.10%	10.40%	23.30%	33.20%		
Spouse, children, in-laws and grandchildren	38.00%	56.10%	37.30%	19.50%		
With other relatives or friends only	1.00%	1.20%	0.80%	1.10%	χ^2 =212.922	.000***
Children, grandchildren, in laws, other relatives or friends	0.70%	0.40%	0.90%	0.60%		
Spouse and other relatives or friends	0.90%	1.30%	0.80%	0.50%		
Spouse, children, grandchildren, in laws, other relatives friends	1.90%	4.90%	1.00%	0.20%		

					χ²	
Country of origin (%)						
Mainland China	27.60%	24.50%	31.30%	25.40%	χ^2	
Hong Kong	51.90%	51.00%	49.30%	56.50%	=13.250	.001**
Taiwan	4.40%	5.20%	4.80%	3.20%		
Vietnam	8.10%	8.60%	8.20%	7.30%		
Southeast Asia	4.10%	5.20%	3.00%	4.40%		
Other countries	4.00%	5.60%	3.30%	3.20%		
Education (%)						
No formal education	12.90%	2.50%	13.20%	23.50%	χ^2	
Elementary	28.80%	16.70%	32.30%	36.80%	=227.271	.000***
Secondary	37.60%	51.70%	34.50%	26.90%		
Post sec. & above	20.70%	29.10%	19.90%	12.80%		
Financial adequacy, mean	2.76	2.71	2.76	2.83	F=7.335	.001**
Personal monthly income (%)						
Less than $500	16.40%	19.40%	17.20%	12.00%	χ^2	
$500-$999	38.40%	23.60%	41.30%	50.20%	=43.208	.000***
$1000-$1499	34.10%	36.00%	32.90%	33.80%		
$1500 & above	11.10%	21.00%	8.60%	4.00%		
Employment status (%)						
Working full time	9.90%	26.90%	3.80%	0.00%	χ^2	
Working part-time	4.40%	9.60%	3.00%	0.70%	=398.567	.000***
Not working	85.70%	63.50%	93.20%	99.30%		

*p<.05; **p<.01; ***p<.001

represents the whole Chinese elderly immigrant population, to some extent. Among all 2214 participants, 677 (30.6%) belonged to the age cohort 55-64, 906 (40.9%) belonged to 65-74, and the remaining 631 (28.5%) belonged to the age cohort 75 and above. According to the sample data of 2006 census, among all aging immigrants who came from China (mainland China and Hong Kong) who were 55 years and older, 47% were male. 42.92% of them were between the ages 55 to 64, 32.89% were between ages 65 to 74, and 24.19% were 75 years or older. Although there are slight differences in the percentages, some results still can be applied to the whole aging Chinese immigrants' population.

Most of the participants (66.2%) were married or living common law. Only very few participants (5.3%) were separated, divorced, or single. The rest 28.6% were widowed. As expected, 86.6% of the participants in the age group 55-64 were married, which was the highest among all three groups. This rate decreased as people got older. The reason for this decrease was largely due to the increased rate of widowhood. In the age group that was 75 years and above, 55.3% were widowed. The rate was only 7.6% among people who were less than 65 years old, and 26% in the age group 65-74. Also, people 75 years or older had the highest rate of separation (2.9%), with the lowest rate of divorce (0.2%) and being single (0.6%), when compared to the other groups. This is perhaps because the older the people are the most strongly affected by traditional Chinese culture, in which being single or divorced is not widely accepted.

Only 13.8% of the participants lived alone. The rate increased from 4.3% in the age group 55-64 to 10.4% in the age group 65-74, and 28.9% in the age group 75 years and above. The increase was correspondent to the sharply increased rate of widowhood in the three groups accordingly. On the flip side, most of them (81.7%) lived with others (such as

spouse, children, in laws, and grandchildren). Very few (4.5%) chose to live with other

relatives or friends. It seemed that people preferred to live together with their spouse,

children, in-laws and grandchildren (38%). This rate was extremely high (56.1%) in the age

group 55-64. This is the best reflection of a general situation for Chinese, in which "four

generations live under one roof". However it was also possible that these people could not

afford separate accommodations due to limited income or the obligation of taking care of

grandchildren. Due to the highest rate of widowhood in the age group that was 75 years and

older, they reported highest/lowest rate in any item which was related to a spouse, such as

the highest rate of living alone (28.9%); highest rate of living with children, grandchildren,

and in-laws only (33.2%); lowest rates of living with spouse only (16%), and living with

spouse, children, grandchildren, and in-laws (19.5%). It was not surprising that people in

the age group 65-74 were always in the middle range. When compared to the Canadian

elderly, it seemed that Chinese immigrants were more likely to live with others. 22% of

Canadian seniors 65 to 74 years old and 34% of Canadian seniors 85 years and older lived

alone in 2001(Statistic Canada, 2007), as opposed to 10.4% and 28.9% of Chinese elderly

in the same age groups.

Most of the participants came from Hong Kong (51.9%), followed by mainland

China (27.6%). The rest of the participants came from Taiwan (4.4%), Vietnam (8.1%),

Southeast Asia (4.1%), and other countries (4%). When compared to the composition of

Chinese immigrants admitted to Canada between 1980 and 2000, Hong Kong (45.6 %),

Mainland China (27.7 %), Taiwan (11.8%), Vietnam (5.2 %), and other countries (9.7%)

(Wang & Lo, 2004), the data in this study did reflect the general immigration tendency. In

the age group 65-74, 31.3% of the participants came from mainland China, which was the

highest among the three groups, but the rate of people coming from Hong Kong was the

lowest (49.3%). 56.5% of the participants in the age group 75 years and above were from

Hong Kong, which was the highest, as opposed to the other two groups, 51% in the age

group 55-64, and 49.3% in the age group 65-74. The rate of people from mainland China in

the age group 55-64 and 75 years and above was almost the same, 24.5% and 25.4 %

respectively.

These participants immigrated to Canada at around the beginning of the 1980s

(mean of length of residence was 18.25 yr). According to Wang and Lo (2004)'s report,

several factors contributed to the accelerated Chinese immigration between 1980 and 2000.

In the late 1970s, immigrants from mainland China came to reunite with their long-

separated families or relatives. However, before 1997, immigrants from Hong Kong kept

leading the immigrants' numbers among the countries of origin mentioned above, due to

the business immigration policy and political instability in Hong Kong. Meanwhile, the

number of immigrants from Mainland China increased sharply since the late 1980s as a

result of the 1989 student movement. In the 1990s, with the elimination of most of the

remaining restrictions on the exit of its citizens by the Chinese government, more and more

professionals and skilled workers from mainland China arrived in Canada. This switch in

the rank of immigrants from mainland China and Hong Kong explains that most of the

participants were from Hong Kong, and it was not easy to predict the composition of each

age group.

As a whole, only 12.9% of the participants had no formal education. Others at least

had an elementary educational background (28.8%), secondary educational background

(37.6%), and post secondary education or higher (20.7%). Comparing the three age groups,

the older the age group was, the lower the educational attainment they had achieved. Those

participants in the age group 75 years and older had the lowest educational background.

Almost a fourth (23.5%) of them had no formal education, and more than a third (36.8%)

had only elementary education. The participants in the age group 55-64 were better

educated. Almost a third (29.1%) of the participants attended post secondary school or

above, and (51.7%) of the participants finished some high school education. Only 2.5% had

no formal education. Perhaps in this age group, the portion of skilled workers was higher

than in the other groups, which requires higher educational qualifications.

Self-reported financial adequacy was at the moderate level (M = 2.76 out of 4). It

was interesting that though the portion of those working in the age cohort 55-64 was the

highest (36.5%), the mean of financial adequacy for this group was the lowest (2.71)

among the three age groups. At the same time, the age group 55-64 had the highest

percentage (57%) of people who claimed that they had over $1000 monthly income, and

the highest percentage (19.4%) of people claiming that they had less than $500 income. On

the contrary, 99.3% of the seniors in the age group 75 and above did not work, but their

self-reported financial adequacy was higher (M=2.83), and only 12% of them claimed that

they had less than $500 income, which was the lowest among the three age group. Perhaps

they had greater access to the Canadian pension plans, for most (77.9%) had fulfilled 10 or

more years of residence. Another possibility is that they received financial support from

their adult children, who may have stable incomes. People in the age group 55-64 may not

have benefitted from the pension plans, and their children were not capable of being a

strong support to them due to younger age, working status, or unstable economic situations.

Also, it is not easy for them to find a decent job in the labour market due to their

qualifications, past experience, or limited language ability. Therefore, the source of their income would be greatly compromised without a stable job. These are possible explanations as to why 19.4% of the participants in this age group reported that they had less than $500 monthly income.

Descriptive Statistics of Social Support and Health Variables

Table 4.2 presents the descriptive findings of social support and health variables included in this study. From this table, we can see that the social support level of these people were very high. 76.7% of the participants claimed that they had someone to trust and confide in, and 95.3% of the participants had someone that can provide care when they are ill or disabled. There was no significant group difference regarding people who can provide care when these participants are ill or disables, while the older the participants were more likely to have fewer people to trust or confide in (the percentage decreased from 82.7% to 70.8%). It may be because most participants in this study live with others, and the traditional Chinese elderly care method is that adult children or family members care for the elderly, and so physical care is not a big problem for them. However psychological or emotional support is missing. Possible reasons for this may lie in several aspects. First, care givers are not familiar with elder care. They may overlook the importance of basic needs, such as food, clothes, and housing. Second, caregivers are busy with their jobs, their own families, and children. They may not have enough time to pay more attention to the elderly. Third, the elderly experience losses with aging, such as the loss of a spouse and friends, or the loss of a job or other important roles. All these result in a lack of psychological support.

Table 4.2 *Descriptive Statistics of Social Support and Health Variables*

	All Cases N=2214	55-64 years n=677	65-74 years N=906	75 years above n=631	Statistic	P-Value
	100%	30.6%	40.9%	28.5%		
Social support variables						
Have someone you can trust and confide in (%)	76.70%	82.70%	76.40%	70.80%	χ^2=25.913	.000***
Have someone to provide care when ill or disabled (%)	95.30%	95.60%	95.30%	94.90%	χ^2=.296	.862
Health variables						
PCS, mean	51.05	51.62	51.14	50.31	F=3.910	.020*
MCS, mean	48.29	48.52	48.82	47.26	F=4.496	.011*

*p< .05; **p< .01; ***p< .001

As for the health status, mean scores for general physical health (PCS) and mental health (MCS) were 51.05 and 48.29 respectively. Based on a p-value of .01 as the significant cutoff, no significant group differences were reported in either physical or mental health status. When comparing the health status of the aging Chinese immigrants with the Canadian general population (Table 4.3), it can be seen that Chinese elderly had better physical health, but worse mental health across all the age groups.

It is well known that Chinese people know how to maintain good physical health through food and exercise. They value physical health as it is the basis of their livelihood. These participants came to Canada through a select system, which requires a medical examination. Only those applicants who meet the health requirement, would not endanger the health of the Canadian population at large, and would not cause excessive demands on existing social or health services provided by the government (Hawkin, 1977), can be granted the status of permanent resident. That is why the Chinese people in this study were in better physical condition.

Most people immigrated to Canada for a better life. However there are numerous problems and considerable stress associated with the adaptation to a new culture (Vohra & Adair, 2000). Problems and stress could be: employment, poor housing, discrimination, acculturative stress, limited language ability, and financial difficulties (Cuellar et al., 2004). Due to the big difference between Chinese and Western culture, Chinese immigrants may face more difficulties, such as family relationship, identity confusion, and belief system. All these may greatly affect their mental health.

Table 4.3 *SF-36 Comparisons of Study Sample and Canadian Population*

Age Group	PCS score		MCS score	
	Chinese	Canadian	Chinese	Canadian
55-64	51.62	49	48.52	53.7
65-74	51.14	47.2	48.82	53.7
75 and above	50.31	42	47.26	54.5

Note. Data Source of Canadian population from "Canadian normative data for the SF-36 health survey," by Hopman et al., 2000. *CMAJ, 163(3).*

Descriptive Statistics of Acculturation Variables

Acculturation variables are the key independent variables in this study. The data

provides additional background information about the participants. The results of the

descriptive statistic analysis of acculturation variables are presented in Table 4.4.

Nearly half of the participants (42%) claimed that they do not have any religion.

Close to a third (31.3%) of the participants reported that they have non-Western religion.

The rest (26.8%) of the participants believed in a Western religion. Significant difference

was found among the three age groups. It seemed that older people were more likely to

have a religion. In the age group 75 years above, the percentage of having no religion was

the lowest (34.8%). While in the 55-64 age group, the rate was 46.1%; almost half of them

claimed that they did not have any religion. Among people who had a religion, non-

Western religions seemed to have more influence than the Western religion. The rate of

non-Western religious belief was higher than Western religious belief among all the three

age groups.

On average, these participants had been in Canada for about 18.25 years. Significant

group difference was found between the oldest age group with the other two. The

percentage of length of residence in Canada for more than 10 years was very high (77.9%)

in this group. The rates in the other two groups were almost the same, 62.7% and 62.3%.

These participants reported a very high self-rated English competency (M=4.05 out

of 6). This did not confirm the language barrier of Chinese immigrants as usually discussed

in other studies (Mui et. al., 2007). Only participants in the 75 years and older age group

reported a lower level of English competency (M = 4.02). On one hand, as discussed

before, the participants' educational level was high in this study, especially those

Table 4. 4 *Descriptive Statistics of Acculturation Variables*

	All Cases N=2214	55-64 years n=677	65-74 years n=906	75 years above n=631	Statistic	P-Value
	100%	30.6%	40.9%	28.5%		
Religion (%)						
No religion	42.00%	46.10%	43.80%	34.80%		
Western religion (Catholic, protestant, Muslim)	26.80%	25.10%	24.40%	31.90%	χ^2 =20. 367	.000***
Non-Western religion (Taoist, Buddhist, Ancestor worship)	31.30%	28.70%	31.80%	33.20%		
Length of residency, mean	18.25	17.62	17.86	19.5	F=4.851	.008**
Length of residency (%)						
0 to 5 years	8.50%	9.70%	10.20%	4.80%		
6 to 10 years	24.70%	27.60%	27.60%	17.40%	χ^2=35.908	.000***
11 to 20 years	31.30%	25.00%	31.70%	37.60%		
Over 20 years	35.50%	37.70%	30.60%	40.30%		
Self-rated English competency (mean)	4.05	4.06	4.06	4.02	F=1.920	.147
Do you think of yourself more (%)						
Canadian	6.10%	4.70%	7.00%	7.00%		
Chinese	25.80%	25.50%	26.80%	27.00%	χ^2=.033	.983
Chinese-Canadian	65.60%	69.80%	66.20%	65.90%		
Chinese culture, mean	3.72	3.59	3.73	3.84	F=33.193	.000***

*p< .05; **p< .01; ***p< .001

participants younger than 65 years old. On the other hand, more than half of the participants (51.9%) came from Hong Kong, a colony under British rule for hundreds of years. English was one of the official languages in Hong Kong. That is why participants in this study reported a higher level of English competency.

When asked for their self-reported ethnic identity, almost 66% of the participants identified themselves as a Chinese-Canadian. Very few (6.1%) claimed that they were Canadian. There was not a lot of difference between the age group 65-74 and the age group 75 years and older. While people between 55 and 64 years old were more likely than the other two age groups to identify themselves as Chinese-Canadian as opposed to Chinese, though the difference was not very big (69.8% compared to 66.2% and 65.9%). Perhaps people at a younger age can accept a new culture and internalize it more easily. However, it was unexpected that only 4.7% of the people in this age group considered themselves as solely Canadian, which was the lowest among three groups.

When asking for their beliefs in Chinese culture and values, the mean, 3.72 out of 5, indicated that most participants had a strong adherence to Chinese culture and values. Significant group difference was found. The older the participants were, the more they adhered to Chinese culture and values. This again lies in the fact that older people are not likely to accept a new culture as they had been exposed to the Chinese culture for most of their life. It is not easy to change their world view or their belief systems. Meanwhile, due to a decrease of cognitive ability, the learning process would be slow compared to younger people.

Descriptive Statistics of General Life Satisfaction

General level of life satisfaction in this study was very high (M=4.13 out of 5). The majority (85.5%) of the participants claimed that they were satisfied or very satisfied with their current life. People in age the age group 65-74 reported the highest level of life satisfaction (M=4.15), while the youngest age group (55-64) reported the lowest level of life satisfaction (M=4.1). This was in line with the general situation in Canada that seniors, especially those 65 to 74, were more satisfied with their life than those 25 to 64 (Statistics Canada, 2007f).

Table 4.5 presents the comparison of levels of life satisfaction among aging Chinese immigrants in this study, Chinese in mainland China, and Canadians. In general, Canadians report the highest level of life satisfaction. The mean score of life satisfaction among Canadian people (above 50) was 8.1 in the *World Value Survey (1999 to 2002)*. Converting the response in this study to a 10-point scale used in other studies, as shown in table 4.5, and considering the fact that a 10-point scale produces slightly lower scores compared to the scores generated from 5-point scale (Dawes, 2008), it is fair to say that Chinese elderly immigrants were not as satisfied with their life as Canadian elderly were. When compared to the Chinese in China, it was found that Chinese immigrants were more satisfied with their life. The mean score of life satisfaction among Chinese people (above 50) was 6.7 in the *World Value Survey (1999 to 2002)*. The rescaled mean score among urban Chinese in Appleton and Song's (2008) study was 6.47. It seems that aging Chinese immigrants in this study were more satisfied than their counterparts in China. Comparing the percentage of each choice among different studies, it showed that 85.5% of the participants in this study

Table 4.5 *Comparison of levels of life satisfaction between Canadian and Chinese*

	Chinese in this study	Chinese [1] > 60	Urban Chinese [2]	World Value Survey[3] Chinese	World Value Survey[3] Canadian
Very dissatisfied (%)	0.4	7.1	3		
Not satisfied (%)	0.8		12		
Moderate (%)	13.3	32.5	42		
Satisfied (%)	57	46.3	39		
Very satisfied (%)	28.5	14.1	1		
Mean (age >50)	8.04 [4]			6.7	8.1
Mean (all age group)			6.47	6.5	7.8

[1] Data source: Zhang & Liu (2007). Childlessness, psychological well-being, and life satisfaction among the elderly in China.

[2] Data source: Appleton & Song (2008). Life satisfaction in urban China: components and determinants.

[3] Data source: World Value Surveys (1999-2002) http://www.worldvaluessurvey.org/ (Accessed November 11, 2009).

[4] Rescaled from 5-point scale to 10-point scale: 1 stays as 1, 5 becomes 10. The points in between are converted like this: 2 becomes 3.25; 3 becomes 5.5; 4 becomes 7.75. Dawes (2008). (Y=9/4*X-5/4)

reported a higher level of life satisfaction (satisfied and very satisfied). The percentage was far more than the results in Zhang and Liu (2007) and Appleton and Song (2008)'s studies (60.4% and 40%). This further confirmed that participants in the present study were more satisfied than Chinese elderly in China.

In general, Chinese immigrants reported a lower level of life satisfaction than Canadians. Nonetheless, Chinese immigrants are more satisfied with their life in Canada compared to people in China. This may be because they immigrated to Canada for a better life, or for family union. They did enjoy the pension plan, free medical system, the quality of living environment (air, water, and food security etc.), or social services (elderly care facilities, programs) in Canada, which are better than in China. However, discrepancies between good will and reality still existed. From the individual level, their hardship may be greatly related to their financial status, mental health problems, social support level, and cultural shock/confusion. From the societal level, discrimination by Canadians and social policy may have further resulted in marginalization. All these possible factors resulted in their lower level of life satisfaction than Canadians.

Bivariate Analysis Between Life Satisfaction and Independent Variables

Considering the large statistical power, the cut off P-value is set at 0.01 level. A predictor is considered to be significant when the P-value is smaller than 0.01 (2-tailed). Results of bivariate analysis between life satisfaction and independent correlates are presented for each of the age groups.

In the age group 55-64, the results of bivariate analysis (Table 4.6) showed that there was a significant positive association between life satisfaction and financial adequacy

Table 4.6 *Bivariate Associations Between Life Satisfaction and Correlates*
(Age Group = 55 to 64)

		Life Satisfaction Score	Statistics Test	P value
Age			$r = .015$	.691
Gender	Female	4.08		.368
	Male	4.13	$t = -.091$	
Marital status	Not married	3.93	$t = -2.727$	.007**
	Married	4.13		
Living arrangement	Not living alone	4.13	$t = 2.674$	.012*
	Living alone	3.66		
Country of origin	Mainland China	4.05	$F = .741$	.477
	Hong Kong	4.13		
	Taiwan and others	4.11		
Education	No formal education	4.35	$F = 1.391$	.244
	Elementary	4.13		
	Secondary	4.06		
	Post sec. & above	4.14		
Financial adequacy			$r = .281$	.000***
Personal monthly income	Less than $500	3.94	$F = 5.594$	.001**
	$500-$999	4.11		
	$1000-$1499	4.09		
	$1500 & above	4.28		

Employment status	Working	4.11	$t = -.328$	.703
	Not working	4.10		
Have someone you can trust and confide in	No	3.95	$t = -2.663$	.008**
	Yes	4.14		
Have someone to provide care when ill or disabled	No	3.70	$t = -3.327$	.001**
	Yes	4.12		
PCS			$r = .067$	.084
MCS			$r = .331$	.000***
Religion	No religion	4.10	$F = .384$	.681
	Western religion (Catholic, Protestant, Muslim)	4.14		
	Non-Western religion (Taoist, Buddhist, Ancestor worship)	4.08		
Length of residency			$r = .087$	.023*
Length of residency	0 to 5 years	4.06	$F = 2.694$	.045*
	6 to 10 years	4.02		
	11 to 20 years	4.08		
	Over 20 years	4.20		
Self-rated English competency			$r = .043$	.268
Do you think of yourself more	Canadian	4.04	$F = .730$	.483
	Chinese	4.07		
	Chinese-Canadian	4.13		

Chinese culture	$r = .110$	$.004^{**}$

*p < .05 (2-tailed); **p< .01 (2-tailed); ***p< .001(2-tailed)

(r = .281, p = .000), mental health (r = .331, p =. 000), Chinese culture (r = .110, p =

.004) . It confirmed that people who were more satisfied with their financial adequacy, who

had higher personal monthly income, better mental health, and who adhered more to the

Chinese culture enjoyed a higher level of life satisfaction. Also significant negative

association with life satisfaction were found in marital status (t = -2.727, p= .007), social

support variables (t = -2.663, p = .008, and t = -3.327, p = .001 respectively), which meant

those who were not married and did not receive social support from others reported a lower

level of life satisfaction.

In the age group 65-74, results of bivariate analysis (Table 4.7) showed that there

was a significant positive association between financial adequacy (r = .157, p = .000),

physical health (r = .169, p = .000), mental health (r =.331, p = .000), Chinese culture (r =

.130, p = .000) and life satisfaction. It means that people with better financial adequacy,

physical health, mental health, and adhere more to Chinese culture report higher level of

life satisfaction. The relationship between have someone to provide care and life

satisfaction was significantly negative (t = -3.991, p = .000), which meant those who have

no one to provide care reported lower levels of life satisfaction.

In the age group 75 and above, the results of bivariate analysis (Table 4.8) showed

that there was a significant positive association between financial adequacy (r = .257, p =

.000), physical health (r =.136, p =.001), mental health (r =.327, p = .000), Chinese culture

(r = -.220, p = .000) and life satisfaction. It confirms that people with a better financial

adequacy, physical health, mental health, and adhere more to the Chinese culture report a

higher level of life satisfaction. These was a significant negative correlation between have

someone can trust and confide in (t = -3.536, p = .000) and life satisfaction, which meant

Table 4.7 *Bivariate Associations Between Life Satisfaction and Correlates*
(age group=65 to 74)

		Life Satisfaction Score	Statistics Test	P value
Age			$r = -.012$	.715
Gender	Female	4.13	$t = -1.032$	.303
	Male	4.17		
Marital status	Not married	4.12	$t = -.870$	.385
	Married	4.16		
Living arrangement	Not living alone	4.15	$t = .594$	.557
	Living alone	4.10		
Country of origin	Mainland China	4.11	$F = .691$	.501
	Hong Kong	4.17		
	Taiwan and others	4.16		
Education	No formal education	4.12	$F = .117$	.950
	Elementary	4.17		
	Secondary	4.15		
	Post sec. & above	4.14		
Financial adequacy			$r = .157$	.000***
Personal monthly income	Less than $500	4.08	$F = .853$	.465
	$500-$999	4.14		
	$1000-$1499	4.19		
	$1500 & above	4.16		
Employment status	Working	4.06	$t = 1.079$	.281

	Not working	4.16		
Have someone you can trust and confide in	No	4.06	$t = -2.292$	.022*
	Yes	4.16		
Have someone to provide care when ill or disabled	No	3.74	$t = -3.991$	.000***
	Yes	4.17		
PCS			$r = .169$	.000***
MCS			$r = .261$	.000***
Religion	No religion	4.16	$F = .196$	.822
	Western religion (Catholic, Protestant, Muslim)	4.16		
	Non-Western religion (Taoist, Buddhist, Ancestor worship)	4.13		
Length of residency			$r = .006$	.857
Length of residency	0 to 5 years	4.20	$F = .433$	.729
	6 to 10 years	4.12		
	11 to 20 years	4.14		
	Over 20 years	4.17		
Self-rated English competency			$r = -.047$	.154
Do you think of yourself more	Canadian	4.12	$F = .272$	.762
	Chinese	4.18		
	Chinese-Canadian	4.14		
Chinese culture			$r = .130$	.000***

*p < .05 (2-tailed); **p< .01 (2-tailed); ***p< .001(2-tailed)

Table 4.8 *Bivariate Associations Between Life Satisfaction and Correlates (age group = 75 and above)*

		Life Satisfaction Score	Statistics Test	P value
Age			$r = .041$	.305
Gender	Female	4.09	$t = -2.141$	$.03^*$
	Male	4.21		
Marital status	Not married	4.10	$t = -1.424$	.155
	Married	4.18		
Living arrangement	Not living alone	4.14	$t = .031$	.976
	Living alone	4.13		
Country of origin	Mainland China	4.12	$F = 1.9$	.150
	Hong Kong	4.17		
	Taiwan and others	4.04		
Education	No formal education	4.14	$F = 2.528$	.056
	Elementary	4.06		
	Secondary	4.17		
	Post sec. & above	4.28		
Financial adequacy			$r = .257$	$.000^{***}$
Personal monthly income	Less than $500	4.06	$F = 2.877$	$.035^*$
	$500-$999	4.18		
	$1000-$1499	4.07		

	$1500 & above	4.41		
Employment status	Working	4.75	$t = -1.855$	.064
	Not working	4.13		
Have someone you can trust and confide in	No	3.99	$t = -3.536$	.000***
	Yes	4.20		
Have someone to provide care when ill or disabled	No	3.72	$t = -2.529$	.016*
	Yes	4.16		
PCS			$r = .136$	.001**
MCS			$r = .327$	.000***
Religion	No religion	4.20	$F = 2.134$	.119
	Western religion (Catholic, Protestant, Muslim)	4.12		
	Non-Western religion (Taoist, Buddhist, Ancestor worship)	4.07		
Length of residency			$r = -.033$	.411
Length of residency	0 to 5 years	4.01	$F = .500$	.683
	6 to 10 years	4.16		
	11 to 20 years	4.16		
	Over 20 years	4.12		
Self-rated English competency			$r = -.002$	.958
Do you think of yourself more	Canadian	4.26	$F = 1.504$	.223
	Chinese	4.08		
	Chinese-Canadian	4.15		

Chinese culture	$r = .220$	$.000^{***}$

*p < .05 (2-tailed); **p< .01 (2-tailed); ***p< .001(2-tailed)

those who have no one to trust and confide in report lower levels of life satisfaction.

Bivariate analysis between independent variables and life satisfaction showed that, financial adequacy and mental health were two important correlates of life satisfaction. Results revealed that there was only one single acculturation variable, Chinese culture significantly related to life satisfaction across all three age groups.

Some of the variables were significantly related to life satisfaction in only one or two of the age groups. Marital status and personal monthly income are only important to the age group 55-64. Physical health is important for people 65 years older. Physical support was important for people younger than 75 years old. Psychological support is important except for the age group 65-74. Other demographic, social and health variables were not significantly related to life satisfaction. No significant relationship between acculturation variables, religion, length of residence, English proficiency, and ethnic identity were found.

Multiple Regression Analysis--Stepwise Regression

Stepwise multiple regression analysis was used to test the contribution of the acculturation variables to life satisfaction when controlled for the confounding effects of other independent variables. Findings can answer the research question further, *"what are effects of acculturation on life satisfaction among aging Chinese immigrants in Canada across different age cohort: 55-64, 65-74, and 75 above"*. Results of multiple regression analysis for each of the age groups are presented accordingly.

All three types of variables-demographic, social support and health, and acculturation, were entered into the stepwise regression model. Significant correlates of life satisfaction were identified by the model. Findings are presented in table 4.9, 4.10, and 4.11

according to different age groups. Variables were considered to be significant correlates of life satisfaction when the significance level was smaller that 0.01.

From Table 4.9, it can be seen that for older Chinese immigrants between 55 and 64 years old, four variables were significantly related to life satisfaction at the 0.01 significance level. They included mental health, financial adequacy, Chinese culture, and living arrangement, and explained 18.1% of the variance in life satisfaction. Among these four significant correlates, mental health accounted the most (10.9%). Financial adequacy, Chinese culture and not living alone all improved the model a little bit (4.1%, 2%, and 1.4% respectively). Based on the findings, older Chinese immigrants with better mental health, higher level of financially adequacy, stronger agreement with Chinese culture, and not living alone reported a higher level of life satisfaction.

From Table 4.10, it can be seen that for older Chinese immigrants between 65 and 74 years old, five variables were significantly related to life satisfaction at the 0.01 significance level. These included mental health, Chinese culture, physical health, having someone to provide care when ill or disabled, and financial adequacy. Altogether they explained 12.6% of the variance in life satisfaction. Among these five significant correlates, mental health accounted for the most (6.5%). The remaining four correlates all improved the model a little bit (1.8%, 2.2%, 1.4%, and 1.2% respectively). Based on the findings, older Chinese immigrants with better mental health, stronger agreement with Chinese culture, better physical health, have someone to provide care when ill or disabled, and a higher level of financially adequacy reported a higher level of life satisfaction.

From Table 4.11, it can be seen that for older Chinese immigrants 75 years and above, four variables were significantly related to life satisfaction at the 0.01 significance

level. These four variables were mental health, Chinese culture, financial adequacy, and have someone can trust and confide in. They explained 19.3% of the variance in life satisfaction. Among these four significant correlates, mental health accounted the most (Adj R^2 = .106). The remaining correlates, Chinese culture, financial adequacy, having someone can trust and confide in, all improved the model a little bit (4.5%, 3.6%, and 1% respectively). Based on the findings, older Chinese immigrants with better mental health, stronger adherence to Chinese culture, a higher level of financial adequacy, and having someone can trust and confide in reported a higher level of life satisfaction.

Table 4.9 *Multiple Regression (Stepwise) – Correlates of Life Satisfaction for Older Adults 55 to 64 Years Old (n = 677)*

	Model 1			Model 2			Model 3			Model 4		
	B	β	SE	B	β	SE	B	β	SE	B	β	SE
Mental health (MCS)	.022	.332**	.002	.018	.276**	.002	.018	.273**	.002	.018	.269**	.002
Financial adequacy				.251	.210**	.045	.273	.229**	.045	.264	.221**	.044
Chinese culture							.179	.141**	.046	.167	.131**	.046
Living alone[1]										-.417	-.121*	.123
R^2 Change	.111**			.041**			.020**			.014*		
R^2	.111			.152			.171			.186		
Adj R^2	.109			.149			.167			.181		

[1]reference group = not living alone; *p< .01; **p< .001

Table 4.10 *Multiple Regression (Stepwise) – Correlates of Life Satisfaction for Older Adults 65 to 74 Years Old (n = 906)*

	Model 1			Model 2			Model 3			Model 4			Model 5		
	B	β	SE	B	β	SE	B	β	SE	B	β	SE	B	β	SE
Mental Health (MCS)	.018	.254**	.002	.018	.255**	.002	.016	.225**	.002	.015	.220**	.002	.014	.208**	.002
Chinese culture				.170	.134**	.041	.189	.149**	.041	.190	.150**	.040	.196	.155**	.040
Physical health (PCS)							.012	.152**	.003	.012	.147**	.003	.011	.137**	.003
Have someone to provide care when ill or disabled										.391	.118**	.105	.368	.112**	.105
Financial adequacy													.132	.111*	.038
R^2 Change	.065**			.018**			.022**			.014**			.012*		
R^2	.065			.083			.105			.118			.131		
Adj R^2	.064			.081			.101			.114			.126		

*$p < .01$; **$p < .001$

Table 4.11 *Multiple Regression (Stepwise) – Correlates of Life Satisfaction for Older Adults 75 years and older (n = 631)*

	Model 1			Model 2			Model 3			Model 4		
	B	β	SE	B	β	SE	B	β	SE	B	β	SE
Mental health (MCS)	.020	.328**	.002	.021	.336**	.002	.019	.306**	.002	.018	.298**	.002
Chinese culture				.242	.212**	.043	.220	.192**	.042	.214	.187**	.042
Financial adequacy							.250	.193**	.048	.236	.182**	.048
Have someone you can trust and confide in										.149	.102*	.054
R^2 Change		.107**			.045**			.036**			.010*	
R^2		.107			.152			.188			.198	
Adj R^2		.106			.149			.184			.193	

*p< .01; **p< .001

Hypotheses Testing

Based on the research findings in above, the results of the hypothesis testing are presented in below:

Hypothesis 1. Those who have been in Canada longer report a higher level of life satisfaction.

The results of both the bivariate analysis and multiple regression analysis did not support the hypothesis. Among the aging Chinese in all three age groups, no significant relationship between length of residence and life satisfaction was found in bivariate analysis. At the same time, length of residence was not a significant correlate of life satisfaction in all the three multiple regression analyses.

Hypothesis 2. Those who have a higher level of English competency report a higher level of life satisfaction.

Neither bivariate analysis nor multiple regression analysis for all three age groups supports the hypothesis. In all three groups, no significant relationship between self-rated English competence and life satisfaction was found in bivariate analysis. In fact, English competence was not a significant correlate of life satisfaction in multiple regression analysis.

Hypothesis 3 Those who report having a Western religion report a higher level of life satisfaction.

This hypothesis was not supported for all three age groups. No significant relationship was found between Western religion and life satisfaction. At the same time, religion did not have any influence on life satisfaction in all three regression analyses.

Hypothesis 4 Those who have a stronger Chinese ethnic identity report a lower level of life satisfaction.

Neither bivariate analysis nor multiple regression analysis supports the hypothesis. Among all the three age groups, no significant relationship between self-reported ethnic identity and life satisfaction was reported in bivariate analysis. At the same time, self-reported ethnic identity was not a significant correlate of life satisfaction in all multiple regression analyses.

Hypothesis 5 Those who report a stronger adherence to Chinese cultural values report a lower level of life satisfaction.

This hypothesis is not supported. Although the findings in both bivariate analysis and multivariate analysis show that Chinese culture was significantly related to life satisfaction in all the three age groups, the direction of the relationship did not support the hypothesis. Contrary to what was hypothesized, Chinese culture correlated positively with life satisfaction. Therefore, it means that aging Chinese immigrants who reported a stronger belief in Chinese cultural values also reported a higher level of life satisfaction.

<div align="center">Conclusion</div>

None of the hypotheses about the influence of acculturation variables was supported by the data. For all the three age groups, adherence to the Chinese culture was the only one of the acculturation variables significantly related to life satisfaction. However, the relationship was in an opposite direction to the one that this study originally postulated. What it means is that regardless of their age, aging Chinese immigrants who reported a strong level of agreement with Chinese culture reported a higher level of life satisfaction. This finding is contradictory to previous research findings which points to the positive

effect of acculturation on life satisfaction. Financial adequacy and mental health were two

other important correlates of life satisfaction regardless of age.

CHAPTER 5: DISCUSSION AND IMPLICATIONS

This chapter begins with further discussion about the research findings. All acculturation variables and important predictors of life satisfaction are explored under specific Chinese culture. Due to the small variance these variables account for life satisfaction, some other potential correlates of life satisfaction at both micro and macro levels are suggested for future consideration. Limitations of the study related to secondary data, self-report, and measurement problems are addressed. Implications for future research and social work practice are also presented at the end.

Discussion of Findings

Acculturation Variables

None of the hypotheses about the influence of acculturation variables on life satisfaction was supported by the data. In general, participants' acculturation in religion, language, length of residence, and ethnic identity dimensions do not significantly affect their life satisfaction. Acculturation in culture and value dimensions does impact participants' level of life satisfaction, while in the opposite direction than this study originally expected. That is, aging Chinese immigrants who reported a strong retention to Chinese culture reported a higher level of life satisfaction no matter what age they were. This finding may contradict previous research findings which point to the positive effect of acculturation on life satisfaction (e.g., Faragallah et al., 1997; Jung, 1996; Kim, 1997; Vinokurov et al., 2000). However, it is in accordance with some studies that found that acculturation to the traditional culture dimension led to a higher level of life satisfaction (e.g. Edwards & Lopez, 2006; Stephens et al., 2009).

Religion

Findings show that religion is not a significant predictor of life satisfaction. This finding does not seem to confirm the important role of religion in immigrants' well-being, such as social support and ethno-cultural maintenance (Zhang & Zhan, 2009), and health (Yoon & Lee, 2007) etc. It does not support the positive relationship between religiosity and well-being among elderly people reported in previous studies either (Faragallah et al., 1997; Hunsberger, 1983; Yoon & Lee, 2007). However a study of Chinese immigrant elders in the United States showed that the importance of religiosity in coping was between important and unimportant (M =1.6 out of 3). Religiosity does not relate to life satisfaction either (Mui et al., 2007). These two studies on Chinese elderly immigrants undermine the common perception, and support to each other. This may be because China is a predominantly atheist country, and church attendance and religious participation is not normal (Zhang & Zhan, 2009). Most Chinese people are not likely to admit to having religious beliefs (Appleton & Song, 2008). When Appleton and Song (2008) changed the question to "whether respondents believed in religious tolerance", religion did become a significant predictor of a higher level of life satisfaction in mainland China.

In this study, those who claim to have non-Western religions reported the lowest levels of life satisfaction. This does somehow confirm the results in a study of Arab-American immigrants, in which people who reported a Christian religion were more satisfied with life than those who reported a Muslim religion (Faragallah et al., 1997). This may be due to the fact that non-Western religions are often considered strange to people in a Western Christian society. This religious marginalization brings more stress to the lives of immigrants (Yang & Ebaugh, 2001). However, findings do not support the notion that

people who practice a Western religion are more satisfied with life, especially for those people who are older than 75 years of age. In this age group, people who do not have any religion seemed to be most satisfied with their life. Perhaps the importance of religion on life satisfaction only applies to people who practice some sort of religion.

Length of Residence

The hypothesis that a longer residence in Canada leads to a higher level of life satisfaction is not supported by the findings. No significant relationship between them was found. It does confirm Cuellar et al.'s study (2004) of Mexican Americans 45 years and older, in which the length of residence was not a significant predictor of life satisfaction.

Kim (1997)'s three post-migration adjustment stages theory may help to explain this. The author pointed out that life satisfaction peaks around the fifteenth year after migration. After that, life satisfaction remains flat or even decreases. Participants in this study had been in Canada for about 18 years on average. This is the stage at which life satisfaction becomes stable, and length of residence at this point would not matter to participants.

Though the relationship between length of residence and life satisfaction is not significant, the *r* score in the bivariate analysis does reflect the weaker- even negative-relationship between them with people getting older. This may be because participants' health conditions become worse with the increase of their length of residence. This in turn decreases their level of life satisfaction. One other possible explanation may lie in the elderly's nostalgia for their home country and Chinese traditions as they grow older. Just like falling leaves always return to the root of the tree, people in China always wish to go back to their home town to spend their last years.

English Proficiency

English proficiency is not a correlate of life satisfaction in this study, which is a little bit unexpected due to the highly stressed role of language ability in immigrants' life. Language ability influences patterns of social integration and acculturation (Diwan, 2008), facilitates successful transition and adjustment into a new culture and society (Tran et al., 2008), and reduces barriers and discrimination between mainstream groups and minority ethnic groups (Ma, 2007). All these in turn will enhance immigrants' life satisfaction.

To explore the underlying reason of this unexpected finding, it is necessary to look at the living environment. With increasingly more Chinese immigrants landing in Canada, the Chinese language has become the 3rd most spoken language in Canada (Statistics Canada, 2007b). At the same time, Chinese communities are expanding and are stronger than before. Chinese employees can be found in most of the public service sectors, even in privately owned businesses. Chinese pamphlets containing all kinds of information are available everywhere. There are more and more Chinese grocery stores, restaurants, and entertainment centers. There are also Chinese non-profit organizations aimed at providing services to Chinese. As for elder care, there are Chinese elder care centers, Chinese elder apartments, and Chinese clinics. Life in Canada can be very easy and convenient even without English.

Ethnic Identity

Findings in the present study show that participants are more likely to identify themselves as Chinese-Canadian. This does confirm the possibility of having strong national identity without weakening the ethnic identity (Sam, 1998), and the fact that strong

feelings of Canadian identity can coexist with strong feelings of Chinese identity (Chia & Costigan, 2006).

Comparing mean scores of life satisfaction within the three sub-groups, there is no consistent tendency as to which group shows the highest level of life satisfaction. It does not seem to be accordance with some other studies which found greater positive association between ethnic identity and life satisfaction (Ward, 2006), or the combination of a strong ethnic identity and a strong national identity promoting the best adaptation (Phinney et al., 2001). However, this finding confirms the finding in Yamaguchi and Silverstein (2003)'s study that no significant correlation was found between ethnic identity and life satisfaction. Ethnic identities may persist in spite of a strong behavioral tendency to acculturate.

It was hypothesized in this study that people who identify themselves as Canadian will report higher life satisfaction under the assumption that they may have highly acculturated into the society. But the data does not support the statement. The reasons may lie in three aspects. First, as Yeh and Huang (1996) pointed out that individuals may desire a national identity to avoid racism. But the change in ethnic identity may affect one's self-concept and decrease psychological functioning. Second, ethnic identity can be strong when immigrants have a strong desire to maintain their identity when pluralism is encouraged (Phinney et al., 2001). Canada is a country that promotes multiculturalism, which gives the possibility and flexibility of being bicultural. Choice of ethnic identity would not impact an immigrant's well-being (Phinney et al., 2001). Third, being influenced by a collectivistic culture, which emphasizes group cohesiveness, harmony, and obligation (Pilgirm & Rueda-Eiedle, 2002), the Chinese people's life satisfaction may not only relate to themselves, but also relate to their families (Ku et al., 2008), and to the society as a

whole. However, ethnic identity is a part of the sense of "wholeness", which refers to "who I am" (Cuellar et al., 1997), and can be inferred that instead of "who am I" (self-identity). "Where am I" (social context) is most important to Chinese immigrants, even when they live in a individualistic society.

Chinese Culture

Across all age groups, a strong adherence to Chinese culture is found to be positively related to life satisfaction. Furthermore, the importance of Chinese culture to life satisfaction is greater among people who are older than 75 years. The finding is contrary to what had been expected. At the same time, it is in contradiction with the assumption that people may feel out of place affectively and psychologically when they adhere to non-Western values while living in a highly "Westernized" society (Shim & Schwartz, 2007). Nonetheless, this finding further supports the importance of traditional cultural values on well-being (Cuellar et al., 2004; Graham, 1997; Stephens et al., 2009).

On one hand, due to longer exposure to the traditional Chinese culture and a decline in cognition and learning abilities, it is hard for older people to accept a totally different Western cultural system. On the other hand, it is possible and easier for Chinese people to maintain a high degree of involvement in Chinese culture (Chia & Costigan, 2006), given the fact that many Chinese communities, like China town, exist in Canada. The 11-item measurement of Chinese culture consists of very basic traditional cultural values, such as filial piety, intergenerational relationships, social roles etc. Compared to individualism, which focuses on self, traditional Chinese culture may bring elderly honor, respect, and self-achievement. Chappell (2000) pointed out that Chinese immigrants in Canada may find themselves receiving less respect from the younger generation than in China. This

demonstrates the importance of Chinese value to aging immigrants. Therefore, traditional Chinese culture also provides a positive role for seniors and results in a more positive experience in old age (Chappell, 2005). It further helps these people to find their own position in the society and to behave more as an individual "self" in Western countries. Therefore, it is not hard to understand why Chinese culture is so important to aging Chinese immigrants.

Demographic Variables

The regression model shows that demographic variables explained very little variance in life satisfaction. Some variables were significantly related to life satisfaction in the bivariate analysis, while the importance disappeared in multivariate analysis. This lends more support to the conclusion that demographic factors make no significant or a very modest contribution to life satisfaction, because there is not too much flexibility for people to change these demographic factors (Sam, 1998).

Financial Adequacy

Among all demographic variables, financial adequacy is the only variable which is significantly related to life satisfaction across all three age groups. This result is consistent with previous studies conducted in both Western society and in China, including Hong Kong (Lee, 2005; Zhang & Liu, 2007; Zhang & Yu, 1998). Better self-rated financial adequacy contributes to a more satisfied life.

Chinese elderly people place a high emphasis on financial status to maintain their quality of life. This may be due to the instable political environment and economy that they experienced in China (Tsang, Liamputtong, & Pierson, 2004). The other possibility is related to their current immigrant status and financial situation. Compared to Canadian

seniors, elderly immigrants are in a poor financial situation (Palameta, 2004). According to

Statistics Canada (2007c), immigrant seniors who settled in Canada between 1991 and

2001 are the most likely (24%) to be in low income situation.

In Canada, the most important source of income for old people is the pension plan

from the government (Neysmith, 1988), which includes: The Old Age Security program

(OAS), the Canada and Quebec Pension Plans (C/QPP), tax-assisted retirement savings,

and the publicly financed health insurance system. However, most of the elderly

immigrants are not entitled to the first two benefits unless they have fulfilled the required

10 years of residence and work. Studies have confirmed that having a pension will

significantly reduce the risk of anxiety and loneliness, and increase their sense of life

satisfaction for elderly in general (Zhang & Liu, 2007). Therefore, self-rated financial

adequacy directly reflects their level of life satisfaction.

In Chinese culture, self-rated financial adequacy may involve family-related factors,

such as financial support to children and financial aids from children (Zhang & Yu, 1998).

Supporting children financially, lessening family burden, and to being an active provider in

parent-child exchange relations, which are normal phenomenon inside Chinese families, are

an inherent part of responsibility, and a way of realizing one's self-value at old age. Doing

so successfully will enhance elders' life satisfaction (Lowenstein et al., 2007). At the same

time, getting financial aids from children is considered a part of filial piety and has been

taken for granted in harmonious family relations, which is not only highly valued for

satisfied life but "internalized as a measure of life achievement" (Zhang & Yu, 1998).

Therefore, to be satisfied with one's own financial situation does not only stay at the level

of fulfilling basic needs, but also means having high social class, self achievement, and a

good contribution to society. This complicated construct further emphasizes the importance of financial adequacy in life satisfaction.

Living Arrangement

Living arrangement is significantly related to life satisfaction, and is confirmed to be an important predictor of life satisfaction for those who are younger than 65 years. Living alone decreases participants' general life satisfaction (B=-.417).

Elderly living arrangements are affected by the traditional culture, and the effect persists longer than expected even during the acculturation process (Kamo & Zhou, 1994). In the traditional Chinese culture, the notion of "four generations living under one roof" is deeply rooted. This is evidently the case in this study, as we can see by looking at the extremely low percentage of Chinese elderly living alone compared to Canadian seniors. Living alone could mean widowed, separated, or single. However in a Chinese cultural context, a living spouse leads to a happy life (Lu & Chang, 1997). Marriage is greatly associated with life satisfaction (Appleton & Song, 2008). Living alone can be further understood as a lack of social support. According to traditional Chinese family values, family is the main source of social support for the elderly (Lu & Chang, 1997). Family members and adult children are responsible for elderly care. The living arrangements of elderly people influence the amount of social support that they receive (Lai, 2005). Furthermore, in Canada, elderly immigrants who live alone are much more likely to have a low-income (Statistics Canada, 2007c). These possible situations may in turn impact one's life satisfaction.

Social and Health Variables

Mental Health

Mental health significantly predicts life satisfaction (10.9%, 6.4%, and 10.6% of the variance) in this study across different age cohorts. It is the most important predictor among all the variables. The result reconfirms the importance of mental health on life satisfaction in old age (Rogers, 1999), especially for older immigrant adults due to their unique post-migration experience (Silveira & Allebeck, 2001). This finding is consistent with findings of previous studies (Fernández-Ballesteros et al., 2001; Foster, 1992; Hsieh, 2005; Zhang & Yu, 1998).

It is worth noting that participants in the present study scored lower in MCS than Canadians. This is partially due to the inherent stressors brought by the process of immigration (Mier et al., 2008), as well as the incongruence between premigratory expectations and postmigratory realities (Murphy & Mahalingam, 2006). Given the importance of mental health on life satisfaction, it is not surprising that the participants in this study report a lower level of life satisfaction than Canadians.

Social Support

As anticipated in the literature review section, either the physical or psychological aspect of social support somehow significantly relates to elderly (above 65 years old) life satisfaction. This finding confirms the previous studies which indicated a positive relationship between social support and level of life satisfaction (Lu & Chang, 1997; Yoon & Lee, 2007), in particular among immigrants population. Meanwhile it does not support the notion that social support increases people's life satisfaction to a high degree (Edwards & Lopez, 2006; Lu & Chang, 1997). Social support variables in this study only explain

very little variance in life satisfaction (1%-1.5%) among immigrants older than 65 years. This finding is somewhat unexpected. The reason may lie in the measurement itself, as the measurement itself is too simple to catch the "multidimensional concept" (Thoits, 1985).

Social support facilitates individuals' coping strategies within an unfamiliar environment and reinforces people's self-confidence, which is crucial in managing ongoing challenges during the adaptation process (Simich et al., 2005). For older adults, social support increases both physical and mental health, and is linked to greater well-being, decreased depression, and lower impairment in functioning (Cummings, 2002). Furthermore, a lack of social support will accelerate the aging process (Franzini & Fernandez-Esquer, 2004). For Chinese elders, great support from their networks enhances their life satisfaction and decreases their feelings of distress (Li & Liang, 2007). However, from multivariate analysis, it can be seen that social support is more important to older people than younger people in this study. One reason could be that when people grow old, the likelihood of negative life events and chronic stress (e.g. loss of spouse, job, social status, and declining health) increases while personal capacity (e.g. cognitive functioning, mobility, and finances) decreases, which makes social support a more important coping resource (Krause, 2005).

Physical Health

Physical health only appears to be important to the elderly in the 65-74 age group. This does not support the other studies which treated the elderly as a whole, and concluded that there was a significant relationship between health and life satisfaction among elderly (Appleton & Song, 2008; Chappell et al., 2000; Gonzalez, Giarrusso, & Tagaki, 2007; Lu & Chang, 1997). It is contradictory to the finding that health was the most important factor

for life satisfaction among the very old (Hiller et al., 2001). Perhaps people in this age group have just retired from the labour market. A positive aspect is that they have more free time, while a negative aspect is they have more to worry about. They begin to worry about their decreased physical health, which could have been overlooked before. Therefore, physical health has a great impact on their life satisfaction during this age period. As they become increasingly older, they become used to their health conditions, and worry less about them. The importance of health decreased to a non significant level among the older cohort.

Summary

Mental health, physical health, or social support variables alone are limited in explaining the regression model further. However when these variables are paired together, there are some meaningful findings.

In the 55-64 age group, participants are relatively young. They reported better physical health, which means less demand for physical support. Because a high percentage of participants were married and participating in the labour market, their social networks were wider than participants in the other two age groups, and in turn they scored better in the physical support aspect. Both situations are taken for granted at this age. Therefore, the importance of physical health and physical support on life satisfaction are not significant for them.

In the 65-74 age group, health conditions were worse, while their mental health status was better. Apparently, they need more physical support than psychological support. This explains why physical health and physical support are two important predictors of life

satisfaction. The importance of mental health in predicting life satisfaction is comparatively lower in this age group than in the other two.

In the age group 75 years and older, they scored lowest in mental health. This gives rise to the importance of psychological support in improving their life satisfaction. Though physical health is a significant correlate of life satisfaction, its importance disappeared when other important variables enter into the stepwise regression model.

Conclusion

In general, the level of life satisfaction in the present study is extremely high, which lends further contribution to the finding that scores of life satisfaction are inclined to be positive (Chen & Davey, 2008), and elderly tend to report high life satisfaction scores (Chong, 2007).

Results from bivariate analysis and the regression model confirm that Chinese culture emerges as an important, and in fact, the only acculturation variable in predicting life satisfaction among aging Chinese immigrants across all three age groups. This confirms the importance of cultural value on acculturation and life satisfaction. Since the variable Chinese culture accounts for less than 5% of the variance in life satisfaction in this study, it may be concluded that the acculturation level is not significantly related to aging Chinese immigrants' life satisfaction as expected.

As well, mental health and financial adequacy are two other important predictors of life satisfaction regardless of age, which is also consistent with other previous life satisfaction studies, in particular with aging Chinese populations (e.g., Chappell et al., 2000; Chappell, 2005; Lee, 2005; Zhang & Yu, 1998). In addition, living arrangements,

physical health, and social support are found to be determinants of life satisfaction in one or two age groups.

<div align="center">Limitations of the Study</div>

<div align="center">*Use of Secondary Data*</div>

Secondary data is collected for given purposes other than the present research questions (Alston & Bowles, 2003; Coyer & Gallo, 2005; Marlow, 2001). Using secondary data may confine the scope of the research questions. The formation of the questions and the choice of variables depend on data availability. Unless the original study is very comprehensive and includes every variable the new study needs, the research design of the new study has to alter to the original data. In this study, the single global item measurement of life satisfaction has been reported to have the lowest reliability among all the life satisfaction measurements even due to its wide application. In choosing variables that can typically reflect people's acculturation status, this study is not only guided by the literature, but also limited by the available variables in the original data. Though new measurements can be created by combining different variables, the new measurement may not reflect the same idea as other existing sophistic measures. For example, the two-item social support measure may not capture all the aspects of people's social networks or perceived social supports.

<div align="center">*Self-reporting*</div>

Using the single item global measure of life satisfaction has a great advantage in that it is comparable across all of the countries (Deaton, 2007). The problem is whether self-reported satisfaction is objective enough. Is there a parameter to which participants can refer? Is it meaningful to compare mean scores in different studies? Deaton (2007) posited

that people may adapt to misery and hardship. If they have a lack of knowledge about what life satisfaction consists of, people may not express their dissatisfaction. As well, there may be a tendency to over- report socially desirable situations, such as overall life satisfaction (Murphy & Mahalingam, 2006). One typical case that best describes this limitation is the finding that high suicide rates correspond with high life satisfaction scores in some countries (Chong, 2007). Self-reported life satisfaction level does not reflect the real mental health condition of older people.

Measurement of Acculturation

Although acculturation has been extensively examined in the literature, disagreement about the way to conceptualize and measure it still exist (Berry, 2003). There is a need to develop an acculturation measure specifically for older adults because of the impact of aging on acculturation, the degree of pressure to assimilate during late life, the impact of traditional cultural roles of elderly on acculturation, and less opportunities for involvement in school and work settings for biculturation (Yamada et al., 2006). Few studies have been conducted to explore factors that best reflect the acculturation process and the level of acculturation among Chinese immigrants, especially aging people. The five variables which have been chosen in this study are common acculturation dimensions examined the most according to the literature and are supposed to play an important role in facilitating immigrants' acculturation. It is not certain whether or not these variables capture all the essential aspects of aging Chinese immigrants' acculturation.

Implications for Future Research Directions

Identify Other Potential Variables

In the regression models, all variables chosen by the model in all three age groups only explain 18.1%, 12.6%, and 19.3% of the variance of life satisfaction. With the exception of mental health, no other variables account for more than 5% of the variance. The relatively small amount of variance indicates that there must be some other factors that predict life satisfaction for elderly Chinese immigrants. According to the literature, other predictors could be at the individual level, such as generational status, children, family structure and family relationships, perception of life situation, perceived congruence, and mastery etc., or other factors at the societal level, such as discrimination and immigration policy. All these factors have been found to be significantly related to the level of life satisfaction of Chinese in some other studies as well as other immigrant populations. Further investigation of the effect of the above mentioned factors on life satisfaction will add to our understanding of aging Chinese immigrants.

Immigrants' generational status may impact how strongly they adhere to original cultural values (Shim & Schwartz, 2007), which affects the level of life satisfaction in this study. It is believed that second generation migrants would adopt new cultural values more easily than their parents (Ward, 2006). Chia and Costigan (2006) found that foreign born immigrants identify with their ethnic culture more strongly than native-born generations, and immigrants' age of immigration is found to influence the level of acculturation.

Children, family structure, and family relationships may be some other potential variables in determining life satisfaction, especially for the Chinese elderly population. Childlessness is more accepted in Western culture (Zhang & Liu, 2007), whereas, it is

unacceptable under traditional Confucian culture. There is a famous saying by Mencius

(Mengzi) in China: "There are three ways to be unfilial, the worst is not to produce

offspring" (Bu xiao you san, wu hou wei da), which best describes the traditional culture.

In Chinese society, filial piety and the value of children to elderly parents are highly

stressed (Zhang & Liu, 2007). Family relations and family care are essential for

maintaining life satisfaction (Zhang & Yu, 1998). Significant association has been found

between childlessness and life satisfaction (e.g. Chou & Chi, 2003; Zhang & Liu, 2007;

Zhange & Yu, 1998).

Comparison of one's own life situation and that of others, either in the host country

or in their original country (Vohra & Adair, 2000), discrepancies between one's own

acculturation attitudes and perceived attitudes of the other group (Pfafferptt & Brown,

2006); and the perceived congruence between premigratory expectations and postmigratory

outcomes (Murphy & Mahalingam, 2006) were found to be important to immigrants

according to cognitive theories, judgment theory, and multiple discrepancy approach. These

factors have been proved to have a great impact on immigrants' life satisfaction.

Mastery, the extent to which a person perceives control over events and situations

(Windle & Woods, 2004), is found to account for almost 40% of the variance in life

satisfaction (Sam, 1998). Sam (1998) pointed out that the ability to meet and feel that one

can control the challenges that accompany adapting into a new cultural environment raises

one's sense of life satisfaction.

Discrimination is an important factor affecting the life satisfaction of immigrants at

the societal level. It is believed that failing to control the negative effects of discrimination

results in acculturation stress (Rudmin, 2009). Perceived discrimination from the majority

group often has more impact on an individual than does acculturation (Sam, 1998), and it is significantly related to immigrants' overall life satisfaction (Vohra, 2000). Discrimination would not decrease with length of residence (Faragallah et al., 1997). According to social identity theory, discrimination from the host society may lead to negative a self evaluation by ethnic minorities, and further mediate the relationship between national identity and self-esteem (Sam, 1998).

Explore Interrelationships among Different Variables to Life Satisfaction

Mental Health and Acculturation

Studies have confirmed that acculturation is often interrelated to the mental health issues of ethnic minorities (Zane & Mak, 2003). Acculturation strategies are good predictors of mental health outcomes (Sam, 1998). Cultural value conflicts can lead to mental health problem among Asian immigrants (Shim & Schwartz, 2007). Acculturation sometimes enhances one's mental health, while sometimes virtually destroys it due to acculturation stress (Berry et al., 1987). Given the importance of mental health in predicting the level of life satisfaction, it is necessary to examine the effects of acculturation on life satisfaction by taking mental health into consideration, i.e. the mediating or moderating relationship among acculturation, mental health, and life satisfaction.

Physical Health and Income

In the literature, the relationship between physical health/income and life satisfaction are unclear. Some studies found both to be determinants of life satisfaction (Appleton & Song, 2008). Some found only one of them to be (Chappell et. al., 2000; Lu & Change). No matter what, without health, people can do very little, even with enough

income. However, the opposite is also true,; without income, health alone does little to enable people to lead a good life (Deaton, 2007). As in this study, physical health and income significantly correlate with life satisfaction only in certain age groups. The correlation between physical health, income, and life satisfaction is worthy of further exploration.

Validate the Concept of Life Satisfaction among Aging Chinese Immigrants

Sam (1998) posited that life satisfaction is "a combination of a good sense of being in control of life events, positive ethnic identity and to some extent positive majority identity, together with living in a relatively homogenous ethnic community or neighbourhood" (p. 13) for immigrant adolescents. While it may not true for older adults, given their certain physical and psychological characteristics, and life experiences. As Ku et al. (2008) pointed out, old people may have very different conceptions of subjective well-being as a result of adaptation strategies, cohort effects, and age-related life circumstances.

In addition, though the global measure of life satisfaction is widely used in assessing Chinese people's life satisfaction, and the score has been used worldwide for comparison, it cannot be asserted that the concept of life satisfaction is a universal truth, for culture may exert a significant influence on the construct of life satisfaction (Suh et. al., 1998). It may not be the same concept to Chinese elderly for they come from a totally different cultural system when compared to Western culture. As discussed before, life satisfaction in an individualistic society is more self-oriented. Positive self-evaluation plays an important role in the judgment of well-being (Reid, 2004). People are more likely to focus on their own situation (Ku et al., 2008). On the contrary, under collectivism,

individual life satisfaction is affected by external factors (Yeh & Huang, 1996), such as norms, roles, and obligations (Suh et. al., 1998). It is more likely that people are satisfied with their life if they have met the expectations put on them by others and by society as a whole.

Moreover, what does life satisfaction mean to immigrants who have been exposed to both social systems? Will it change in between due to immigration? Or will it become a more complicated construct? Further investigation into the concept could deepen the understanding of aging Chinese immigrants, and help to find out the actual determinants of life satisfaction.

<div align="center">Implications for Social Work Practice</div>

Responding to the increasingly diverse aging population in Canada, especially the aging Chinese population, their well-being should be a central concern in the social work profession. The current findings add to the knowledge with the goal of helping individuals live more satisfied lives. This knowledge will assist Chinese elderly to live in a society where they can fully participate, and live as a positive contributing force to society. Findings may have implications for social workers both from the mainstream agency and from the same ethnic group who work with the aging Chinese population. At the same time, findings suggest that it is essential to adopt a culturally competent approach in social work practice in working with people from ethnic minority groups.

A culturally competent approach means "operate from an empowerment, strengths, and ecological framework, provide services, conduct assessments, and implement interventions that are reflective of clients' cultural values and norms, congruent with their natural help-seeking behaviors, and inclusive of existing indigenous solutions" (Fong,

2001, p. 1). Chinese people possess unique personality characteristics and value orientations due to the strong impact of traditional Chinese cultural values (Yuen-Tsang, 1997). Therefore, a culturally appropriate approach is especially important in working with aging Chinese immigrants to improve their life satisfaction.

In this study, although acculturation factors may not greatly improve aging Chinese immigrants' overall life satisfaction in Canada, the importance of traditional Chinese cultural values is reinforced in this study. Adherence to Chinese cultural values does not necessarily present itself as a barrier in pursuing a higher level of life satisfaction. On the contrary, it may contribute to a positive experience in old age (Chappell, 2005), facilitate their seeking and utilization of services (Ramos-Sanchez & Atkinson, 2009), and predict higher levels of life satisfaction (Edwards & Lopez, 2006). This gives rise to the necessity of helping clients from ethnic groups in maintaining their traditional culture and providing culturally competent services at the same time. It has been claimed that identifying and nurturing clients' cultural values and strengths will contribute to a better understanding of clients' and their strengths (Edwards & Lopez, 2006), which is a foundation on which social workers can start to create effective interventions with clients.

Given the specific meaning of life satisfaction under the collectivist belief system, services or programs designed for maintaining or nurturing traditional Chinese culture could tap into three levels: individual and family, community, and society. At the individual and family level, a client-centered approach is promoted as the Chinese elderly desire to be respected and valued. Social workers should provide culturally competent services based on knowledge of Chinese culture. These services should ensure that Chinese culture is highly respected, and accepted in the larger society. Social workers may also

function as a connection between elderly clients and family members. Working with both clients and their family members will remove the communication barrier, and decrease the conflict due to different acculturation levels. Social workers should avoid stereotyping or attempting to Westernize clients' behaviour, beliefs or values (Mjelde-mossey et al, 2005), which could increase their acculturation stress and cultural confusion, and in turn affect their life satisfaction. At the community level, making full use of the existing Chinese communities could be one feasible strategy. Chinese communities are often a small Chinese society to its members, especially aging members. People share the same cultural background, and can communicate in their native language. People practice their traditional cultural norms, customs, and activities in the society without worrying about being different from people in the host society. At the societal level, social workers may be responsible for public education in aiming at facilitating culture diffusion, enhancing mutual understanding, and eliminating discrimination from the host society. Social workers may also advocate for clients to have more open immigration and social policies, which takes Chinese culture into consideration.

However, these findings should be interpreted with caution. Maintenance of traditional culture does not mean discarding or rejecting the host culture. Knowledge of the host culture can help immigrants better function in the Western society. It also encourages elderly to clearly differentiate their own cultural values from the mainstream culture, which contributes to self-esteem.

The findings about living arrangements reinforce the importance of traditional cultural values. Findings show that most aging Chinese immigrants live with others, especially their spouse, children and grandchildren. Living alone decreases the level of life

satisfaction. Extended family living method is more than a superficial concept. It is a cultural manifestation. It reminds us that not all minority groups follow the mainstream modes of living arrangements, elder care methods, or coping with aging. In Western countries, it is not common for elderly to live with their children. They live with their spouse or live alone. They may choose to live in different kinds of facilities, such as a seniors building, assisted living facilities, or a nursing home, where they can get professional care and services. At the same time, they use their own social resources and public services to cope with aging instead of depending on their children. However, this is not the case for the Chinese. Family care and living with adult children are part of filial duty under traditional Chinese culture. They could be a symbol of social status, prestige, and harmony within the family relationship. Social workers need to respect, understand, and make good use of this traditional custom, and use it as a starting point for intervention. Knowledge of clients' preferred of living arrangement may help to understand their acculturation level, and the extent to which they adhere to traditional culture. Hence, social workers are able to better figure out the core problems that decrease their level of life satisfaction. Furthermore, government policies aimed at service delivery to the elderly should give more thought to this alternative mode of living arrangement. Outreach and home care could be effective not only to elderly, but also to their care givers. On one hand, elderly will benefit from the professional care, which could improve health status. On the other hand, these alternative care methods lessen the burden on caregivers both emotionally and financially.

However, preference of living arrangement can not be taken for granted. Social workers need to pay attention to those who prefer to live independently despite factors such

as their financial situation and regulations about applying for a seniors' apartment or low-income housing. Specifically, social workers need to reach out to those who have suffered from family violence or elderly abuse, and those who are not able to take any action or move out.

The highly emphasized role of financial adequacy on life satisfaction in this study suggests that social workers need to pay close attention to Chinese immigrants' financial situation. Though they can not improve a client's income directly, social workers may focus on information distribution and service referral. Due to language problems or unfamiliarity with social policies, elderly immigrants may not access the Canadian pension system, or may not fully benefit from government-funded services. Social workers should play the role of informer. By providing information in the language the client uses, assisting in form filling, application document preparation, and helping with translation and transportation, clients are more likely to receive what they are entitled to, such as a pension plan or other forms of income supplementation. At the same time, social workers should act as an advocate for those who are not entitled to a pension but are in desperate financial situations. Free supportive services or programs should be funded by the government in order to lessen their financial burden.

Findings about the significant relationship between mental health and life satisfaction are consistent in the literature. For a long time, mental health problems have been underestimated by Chinese due to their negative connotation in a Chinese context. It is more likely that Chinese people would not admit to mental health problems or seeking professional help in avoidance of losing face or being marginalized. Nonetheless, comparison shows that aging Chinese immigrants' mental health status is not as good as

Canadian seniors'. Mental health significantly predicts aging Chinese immigrants' level of life satisfaction. Thus interventions at different levels are needed in addressing the poor mental health of Chinese immigrants.

Intervention focused on the individual level should first identify the main factors associated with immigrants' mental health. For elderly immigrants, immigration related stresses, like employment, poor housing, discrimination, acculturative stress, limited language ability, financial difficulties, culture shock, identity confusion, and intergenerational relationships, together with age related stress, greatly impact their mental health. Some of the stresses may not disappear with the longer length of residence. Then social workers may proceed to problem solving accordingly. Through building a supportive, long-term, and trustful relationship with clients, social workers can work with clients in helping them adopt an appropriate attitude towards their mental health problem, and improving their coping strategies under stressful situation. Social workers need to encourage the utilization of mental health services by using an approach and a language that can be accepted by Chinese immigrants.

At the community level, raising public awareness of mental health would be the first task. Methods could be public presentation, distribution of information brochures, or supportive group discussion, etc. A positive perception of mental health from the public will not only benefit the person who has mental problems, but also contribute to eliminate discrimination or rejection in the large environment.

Other than these above mentioned factors, the importance of social support on immigrants' life satisfaction cannot be neglected. Different support needs should be addressed properly through a well-established social network. Helping clients in connection

with a wide supportive care group would work better for those who are in need of physical support. This group consists of the main care giver in the family, a public nurse who can reach out to clients' home, or staff in nursing homes, seniors buildings, or assisted living facilities. To address the need of psychological support, social workers need to encourage clients to engage and be active in an informal social support network, including families, friends, relatives and neighbours usually from the same ethnic groups. Immigrants should be directed to the available formal support providers, such as government bureaus, mainstream agencies, resettlement agencies, gender- and ethno-specific organizations, and language schools (Simich et al., 2005; White & Cant, 2003), which may further meet their psychological supportive needs,

The most important thing in working with immigrants to build up or improve their own social support network is to show them or teach them how to navigate the support system, e.g., where to find the necessary support, because they may not be familiar with the care system in Canada. Or they may not know where to find an agency, a community, or a religious group. Specifically, this is important to those who come from a non-welfare society.

In working with aging Chinese immigrants clients, there are some other special issues that social workers need to notice. First, Chinese may not to seek help from others because of their notion of "wash your dirty linen at home", the characteristic of tolerance, or "having face". However, this could result in a further decrease in physical health and mental health. To solve this problem, social workers can reach out to Chinese communities. They have a great chance to know those who need help through their members. Second, language barrier may prevent them in seeking help. Although the participants in this study

reported a high level of English competency, there are those that know little English, especially older adults. Therefore, interpreters or social workers coming from the same ethnic background would help a lot. Due to the importance of family and informal social supports to individual life satisfaction of Chinese elderly, social workers could switch emphasis from working with the elderly alone to working with the elderly person and their family together. Facilitating interfamilial communication and intergenerational harmony may improve understanding among families members. By doing this, social workers may be more likely to achieve their intervention purpose, and enhance the level of social support for elderly. In addition, studies have confirmed that older adults who provide support more than the supports they received are more likely to express greater life satisfaction (Stevens, 1992). Therefore, social workers can encourage Chinese immigrant elderly to be more active in providing support to the community or society, like inducing volunteering. It is helpful for the elderly to realize their individual value in Western society and to increase their sense of belonging to the community and society. This is another possible way to enhance their life satisfaction in later years.

Culturally competent practice does not mean that social workers need to know the language or norms of every type of ethnic minority groups. Nor does it mean that only social workers with the same ethnic background as clients can serve the client well. Seeking guidance, advice, and help from professionals, religious and community leaders, even clients from the clients' culture, could overcome cultural barriers.

Conclusion

Canada is diversifying and aging at the same time. The demographic tendency has drawn much attention to both immigrant studies and gerontology studies. Although they are

one of the fastest growing minorities, the aging Chinese immigrants has received less attention in areas of life satisfaction and acculturation areas. In this study, acculturation theory has been proposed as the theoretical framework in examining aging Chinese immigrants' life satisfaction. Some other demographic, social and health variables were included as well.

None of the hypotheses about the influence of acculturation variables were supported by the data. For all three age groups, adherence to the Chinese culture was the only one of the acculturation variables significantly related to life satisfaction. However, the relationship was contrary to the one that this study originally expected. No matter what, the findings emphasized the importance of traditional Chinese culture to aging Chinese immigrants.

The findings indicate that financial adequacy and mental health are important predictors of life satisfaction regardless of age. Living arrangements, physical health, and social supports are somewhat important, depending on the age group.

Due to the small variance in which the regression model accounted for life satisfaction, further investigation is needed in exploring what relates to the level of life satisfaction among aging Chinese immigrants, because they reported a lower life satisfaction compared to Canadians, but are higher than those still living in China.

Given the large sample size that adequately represented the aging Chinese immigrant population in Canada, this study adds meaningful knowledge to social work literature about aging Chinese immigrants. It contributes to understanding the situation of the aging Chinese immigrants in Canada, and has useful lessons for social work practice with different ethnic groups. It also lays important groundwork for further research.

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APPENDIX A: UNIVERSITY OF CALGARY ETHICS APPROVAL

UNIVERSITY OF CALGARY

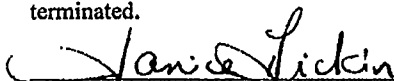### CERTIFICATION OF INSTITUTIONAL ETHICS REVIEW

This is to certify that the Conjoint Faculties Research Ethics Board at the University of Calgary has examined the following research proposal and found the proposed research involving human subjects to be in accordance with University of Calgary Guidelines and the Tri-Council Policy Statement on *"Ethical Conduct in Research Using Human Subjects"*. This form and accompanying letter constitute the Certification of Institutional Ethics Review.

File no:	**5744**
Applicant(s):	**Haiying Wang**
Department:	**Social Work, Faculty of**
Project Title:	**The Effects of Acculturation on Life Satisfaction among the Elderly Chinese Immigrants in Canada**
Sponsor (if applicable):	

Restrictions:

This Certification is subject to the following conditions:

1. Approval is granted only for the project and purposes described in the application.
2. Any modifications to the authorized protocol must be submitted to the Chair, Conjoint Faculties Research Ethics Board for approval.
3. A progress report must be submitted 12 months from the date of this Certification, and should provide the expected completion date for the project.
4. Written notification must be sent to the Board when the project is complete or terminated.

Janice Dickin, Ph.D, LLB,
Chair
Conjoint Faculties Research Ethics Board

Date: August 2008

Distribution: (1) Applicant, (2) Supervisor (if applicable), (3) Chair, Department/Faculty Research Ethics Committee, (4) Sponsor, (5) Conjoint Faculties Research Ethics Board (6) Research Services.

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