PREDICTORS OF ELDERLY SUBJECTIVE WELL-BEING IN HUMAN ECOLOGICAL PERSPECTIVE

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ABSTRACT

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In recent decades, the well-being of elderly has drawn considerable attention especially on subjective well-being. Many social topics have been studied from different environmental levels in ecological perspectives, but elders’ subjective well-being has not yet been discussed with multilevel environmental factors. The primary objective of this study was to investigate the predictors for subjective well-being of American elderly on three levels: individual characteristics, family attributes, and neighborhood social relationships. Data from General Social Survey 2008 cross-sectional was used for analysis. Ordinal logistic regression was used to examine the effects of selected individual, family and neighborhood variables on subjective well-being of elderly.

The results indicated that married elderly in the sample were more likely to have higher subjective well-being than unmarried group. The analyses also demonstrated that family financial situation and frequencies of church participation were strong predictors of elderly subjective well-being controlling individual, family and neighborhood related factors. The findings in the study will contribute to gain a better understanding of influential factors of elderly subjective well-being among all levels variables, and will help social service professionals and policy makers in their effort to improve the quality of life of the elderly.
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(Major Professor: Robert J. Griffore

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TABLE OF CONTENTS

LIST OF TABLES.................................................................................................................................................. vi
LIST OF FIGURES................................................................................................................................................... vii

CHAPTER 1
INTRODUCTION
Statement of the Problem................................................................................................................................. 1
Purpose of the Study ........................................................................................................................................... 2
Significance of the Study ................................................................................................................................. 3
Conceptualization of Subjective Well-being ................................................................................................. 4
Measurement of Subjective Well-being ......................................................................................................... 5
Research Questions and Hypotheses .............................................................................................................. 7
Human Ecology Theoretical Approach ......................................................................................................... 8

CHAPTER 2
LITERATURE REVIEW
Individual and Demographic Factors ........................................................................................................... 12
Family Factors .................................................................................................................................................. 14
Neighborhood Indicators .............................................................................................................................. 16

CHAPTER 3
METHODOLOGY
Data Source ....................................................................................................................................................... 19
Measures .......................................................................................................................................................... 20
Data Analysis .................................................................................................................................................. 22

CHAPTER 4
RESULTS
Descriptive Analyses ......................................................................................................................................... 23
Test of Main Hypotheses ................................................................................................................................. 27
Model Fitting Information ............................................................................................................................... 31

CHAPTER 5
DISCUSSION
Key Findings ...................................................................................................................................................... 33
Limitations ........................................................................................................................................................ 36
Implications for Children’ Subjective Well-being ......................................................................................... 38
Implications for Future Research and Policies ............................................................................................ 40
Conclusions .................................................................................................................................................... 42

APPENDIX A ...................................................................................................................................................... 44

APPENDIX B ...................................................................................................................................................... 46
LIST OF TABLES

Table 1. Characteristic of Respondents for Categorical Variables ........................................25

Table 2. Results from Ordinal Regression Models Predicting Elderly Subjective Well-Being .................................................................30

Table 3. Test of Parallel Lines ............................................................................................32

Table 4. Goodness of Fit ..................................................................................................32

Table A 1. Questions Employed in the Analyses .............................................................45

Table B 1. Missing Values for Variables Used in Data Analysis .......................................47

Table C 1. Available Link Functions in the Ordinal Regression Procedure in SPSS ..........49
LIST OF FIGURES

Figure 1. Factors examined on individual, family and neighborhood levels..........................11

Figure 2. Distribution of General Happiness ........................................................................28
CHAPTER 1

INTRODUCTION

Worldwide aging as a social and a public issue has prompted much research on the health of the elderly. The measurement of elderly health is not limited to objective measures such as physician’s report. Subjective measures have also been taken into account, for example, self-rated health, life satisfaction and happiness. Subjective well-being is one of the indicators of elderly overall health, and as an indicator of health it contributes to the research of quality of life of the elderly.

Statement of the Problem

Population aging is a serious social issue across the world. The percentage of the elderly has risen sharply in the U.S. The low mortality of older adults combined with the baby boomers cohorts implies a continuous increase of the aging population in the 21st century (Robine, Jagger, Mathers, Crimmins & Suzman, 2003). According to the U.S. Bureau of Census, the population of those 65 years and over in the United States was 35.6 million in 2002, which comprises 12.3% of the total U.S. population. In the 2006-2008 the American Community Survey, it reported that people aged 65 and over were 37.9 million, which is 12.6% of the total population. It is estimated that in the year 2030, the population of 65 and older will double to 71.5 million persons or 20% of the total U.S. population (Young, 2004).

Given that this segment of the population is large and growing, it is important to know if elderly perceive that they are satisfied with their quality of life, and whether they
are happy. A question of increasing interest relative to the demography of aging is whether or not Americans are living higher quality as well as longer lives (Yang, 2007). Previous research showed that elders’ happiness remains stable throughout the years (e.g., Easterlin, 2001).

There is substantial support that subjective well-being encompasses many variables. According to the literature, the most influential variables include health status, having good social relationships, access to local amenities, living in a safe, friendly neighborhood, having access to transportation, having financial capacity to meet needs, and having the ability to participate in the community (Cantarero, Potter & Leach, 2007). Factors like health, income, and social relationships have been identified as predictors of elder’s subjective well-being.

However, most of the predictors studied in the literature are at the individual level. Little attention has been given to the association of elder’s subjective well-being to family and other contextual factors. It is important to consider the family and other environments in which people primarily live. Are there family variables and other ecological variable that make influence elders’ subjective well-being?

Purpose of the Study

Among many factors which have been studied previously, there are no studies that identified the different ecological levels found in understanding the subjective well-being of the elderly. From my perspective, it is important to use an ecological system to group these important factors from the different levels of the environment.
The purpose of this study is to explore the influential factors from an ecological perspective, especially the microsystem variables, to see how the interaction with one’s family and other social group effect on individual’s subjective well-being and how they vary from the individual traits themselves. This study is designed to examine whether selected individual, family, or neighborhood variables can explain elders’ subjective well-being and to examine the extent to which environmental variables explain elders’ subjective well-being compared to the influence of individual characteristics.

The purpose of studying elders’ subjective well-being under human ecological perspective is to identify the conditions influencing subjective well-being. Family is the primary environment in which individuals live. As the American family has changed in complex way in recent years, it is important to study the current family system and its influence on elder people’s subjective well-being, as well as the neighborhood context of families.

Significance of the Study

The study of subjective well-being in the older population can benefit an individual’s overall health. Being aware of the elderly’s perceived well-being is as important as an objective status of health. Both physical health and subjective well-being are important components of life quality and successful aging. Rowe and Kahn (1998) defined three criteria for successful aging: low levels of disease and disability, high physical and cognitive functioning, and active engagement with life. However, a large number of older adults report high levels of well-being despite physical, cognitive and
social deficits (George, 2006). Therefore, research in subjective well-being can influence
the literature as well as the scholarship of what constitutes successful aging.

This study provides a human ecological framework for better understanding of
elderly subjective well-being. Specifically, it addresses the individual, family, and
neighborhood variables, and points out the different levels of environmental factors.
Important predictors among related factors beyond just finding the association between
variables are identified for future research.

The research of elder’s subjective well-being is useful for the evaluation of
policies in many domains, including health care, public health, social service, families
and environment. In democratic societies such as the U.S., the indicators of subjective
well-being provide an important source of information to leaders about the well-being
and concerns of the older citizens (Diener, 2006).

Conceptualization of Subjective Well-being

Subjective well-being incorporates life satisfaction, happiness, affective
experiences, quality of life which tend to be used interchangeably in the research of
subjective well-being. The literature suggests that the measures of these concepts are
highly correlated among each other and with relevant personal and social characteristics
(George, 2006). In this particular study, subjective well-being will represent the meaning
of subjective perception of life.

Subjective well-being refers to the various types of evaluations people make
regarding their lives. Usually, it includes cognitive and emotional evaluations. Following
Diener’s (1999) conceptualization, it consists of three major components: life satisfaction as a cognitive aspect; the frequent experience of positive affect (PA); and the low frequency of negative affect (NA). Both PA and NA have been considered as affective aspects. The conceptualization of subjective well-being as composed of three factors, namely, PA, NA, and life satisfaction, has received consistent empirical support (Lucas, Diener & Suh, 1996; Arthaud-Day, Rode, Mooney, & Near, 2005).

Some researchers claim that subjective well-being need not be constructed so narrowly (Russell, Burton, Rushing, Ritter & Rakocy, 1993). Later on, Diener (2006) has added specific domain satisfactions: work satisfaction, marital satisfaction, or satisfaction with other relationships.

However, there are alternative conceptualizations, such as happiness, morale and satisfaction. In this study, subjective well-being is applied to represent the individual’s subjective perception of life in terms of general happiness. It is generally agreed that happiness is a subjective, positive, and inner psychological state of mind (Veenhoven, 2010). In this sense subjective well-being is a concept for the individual to assess whether one’s life is good.

Measurement of Subjective Well-being

Measures of subjective well-being are obtained through self-reports. People are asked to evaluate their lives as a whole or some aspect of it (Van Hoorn, 2007). In the earlier research on subjective well-being, researchers studying the facets of happiness usually relied on only a single self-report item. For example, the item in General Social
Survey on overall happiness is: “Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?”

Recent measures of subjective well-being contain multiple items. The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985) and the Positive and Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988) are the much used ones. There are several statements that the respondents are asked to indicate the extent to which they feel this way. SWLS asks participants to scale their agreement on 1-7 points on five statements, such as “In most ways my life is close to my ideal”. PANAS measures positive affect and negative affect each with 10 items. There are other scales that have been evaluated which measure subjective well-being accurately (Kashdan, 2004): such as the 4-item Subjective Happiness Scale (Lyubomirksy & Lepper, 1999), the 18-item Well-Being Scale (Tellegen, 1982). The literature suggests that the decision to use a single item scale or a multi-item scale for measuring subjective well-being depends on the researchers’ needs and the research feasibility.

For the measurement of subjective well-being in using the data from General Social Survey (2008), researchers used a single-item self-report variable. Despite the simplicity of subjective well-being measure, it has adequate validity and reliability (Veenhoven, 1996). Besides, multi-items including domain satisfactions have been applied to measure subjective well-being (Ellison, 1991). Specifically, there are items related to satisfaction with community life, satisfaction with nonworking activities, satisfaction with family life, satisfaction with friendship and satisfaction with health.
However, the domain satisfaction variables in GSS are not available in recent updated dataset; the most recent year containing domain satisfaction variables is 1994 which might not explain the present situations. Even from the dataset of 1994, the data of domain satisfactions have over 50% missing data for the old population who are 60 years and over. Therefore, in the present study, a single-item found in 2008 dataset will be used to measure subjective well-being due to its availability and validity.

Research Questions and Hypotheses

Several variables are hypothesized as predictors of elders’ subjective well-being. Variables will be clustered into three groups: individual level, family level and neighborhood level. Individual level variables are social class, work status and education attainment. Health has been identified as a predictor of subjective well-being commonly. However, due to the lack of availability of health in all samples (sample design detail can be seen in descriptive analyses section) in the General Social Survey, the variable health was not included in the study. Marital status, family size and family economics will describe the family level characteristics. Neighborhood social relationships will include the frequency of social contact and church attendance.

The research questions here are as follows:

(1) How do three different levels of factors predict elders’ subjective well-being?

(2) Would the environmental microsystem variables (family and neighborhood) be more influential than individual characteristics in predicting elders’ subjective well-being?
As with the emphasis of individual traits and environmental factors in human ecological perspective, the study hypothesizes that both family and neighborhood variables are associated with elders’ subjective well-being as well as the individual factors. Family and neighborhood factors may contribute to elders’ subjective well-being over the individual factors.

The hypotheses posed in this study are that each of the variables examined does not predict elderly subjective well-being. The following are these variables: social class, education, work status, marital status, family size, family economics, social contact and church attendance.

Human Ecology Theoretical Approach

Human ecology theory is unique in its focus on humans as both biological organisms and social beings in interaction with their environment (Bubolz & Sontag, 1993). The quality of human life and the quality of the environment are seen as interdependent, and a person’s behavior is a function of interaction between individual traits and the environment. Here, elder’s subjective well-being will be studied for part of the quality of life, in terms of person’s feeling of happiness.

Humans and their interaction with an environment constitute an ecosystem. Bronfenbrenner (1993) identifies four major environmental levels in the ecosystem: the microsystem, the mesosystem, the exosystem, and the macrosystem. It ranges from very intimate contact between individuals to the broader social or physical context, like government or weather.
Microsystem is the environment with which individuals have intimate physical and social interactions. Like the family or workplace are the places old adults having their most activities and interactions. These intimate and interpersonal interactions in the immediate environment are also referred as “proximal process”. Mesosystem consists of the interactions among several microsystems, for example the interactions between family and workplace. A fundamental ecological assumption is that what happens in a person’s microsystem is interrelated to and interacts with other microsystems (Muss, 1996). The exosystem is a larger setting than the mesosystem and has direct or indirect influence on individual, even without the individual’s participation. For example, the welfare system and city facility are having effects on a disabled person’s daily life. Macrosystem is an even larger context than exosystem, like a country’s general culture and economic context. The great depression had adverse developmental outcomes for individuals who born at that time. Therefore, the four levels of environmental contexts construct the whole ecosystems in which an individual engages in physical and social activities. For the present study of elders’ subjective well-being, microsystems of elderly will be the focal scope.

In Bronfenbrenner’s view, proximal process is essential to the process of development, without adequate proximal process, optimal developmental outcomes will not occur (Griffore & Phenice, 2001). A microsystem consists of a cluster of activities, roles and interpersonal relations experienced by the individual in a given face-to-face setting with particular environment (Bronfenbrenner, 1993). Among microsystems, family is considered as the primary environment. An individual’s well-being cannot be considered apart from the whole family’s circumstances. A family carries out physical-
biological sustenance, economic maintenance, and psychosocial and nurturance functions for its members and itself (Bubolz & Sontag, 1993). But the family does not support its members alone. Families interact with other Microsystems through energy, resources and information transformation. Neighborhood and church would be the other typical Microsystems for elders. Individuals are interacting in those settings, and these Microsystems as individual’s proximal environmental contexts have effects on individual’s behaviors and well-being.

In the consideration of the effects of elder’s subjective well-being, only primary environmental context is not enough. Characteristics of the individual also play an important role in the process of interaction with environments. According to human ecology theory, the organism does not receive environmental influence passively. Personal characteristics can facilitate or impede the interaction with environment by shaping and influencing proximal processes, persons who are active or very attractive tend to elicit certain types of responses from social environment (Griffore & Phenice, 2001). The organism and environment affect each other reciprocally.

The human ecology perspective shares the symbolic interaction approach of subjective interpretation, and perception is a significant factor in viewing the interaction process. It is believed that environment should not be viewed only as the objective external conditions in which individual lives. Rather it must be understood from the individual perspective with respect to the meaning they have created based on their needs, values and goals. People respond selectively to environmental stimuli and then symbolically interpreted through personal and cultural meanings (Bubolz & Sontag,
Specifically, the objective nice and safe neighborhood might attract more outside activities, but people who perceive violent or threat from the neighborhood may subjectively hold back their interactions.

Multidimensional and reciprocal causality characterize relationships and explanation in an ecosystem (Griffore & Phenice, 1988). So a multidimensional model is needed to understand and illustrate individual’s subjective well-being in the ecosystem. Under a human ecological perspective, subjective well-being of elderly will be studied in multidimensional levels: individual characteristics, family factors, and neighborhood indicators. In other words, individual characteristics, family attributes, and neighborhood variables will be examined as the structure which are impacting on the individual’s outcomes-elders’ subjective well-being. All factors on these three levels were presented in Figure 1.

Figure 1

Factors examined on individual, family and neighborhood levels
CHAPTER 2

LITERATURE REVIEW

Many investigations in the literature have been designed to discover the determinants of subjective well-being. Diener and his colleagues have examined on the determinants of subjective well-being for years. Wealth, political and civil rights, social comparisons, equality, culture traits have been researched in predicting subjective well-being of nations (Diener et al., 1995).

Larson (1978) has reviewed the previous thirty years of research on subjective well-being of older Americans. In his work, he reported the related factors to subjective well-being in the literature: Health, physical disability, socioeconomic status, age, sex, race, employment, marital status, residence and social interaction. Most recently, George (2010) reviewed literature since 2005 for subjective well-being in the later life. She indicated that over fifty variables have been tested as determinants of subjective well-being. The major factors have been identified are: Health, social integration, social relationships and social support, and psychosocial resource.

Among all those indicators identified in the literature, this study will review the important factors in three dimensions under human ecological framework: individual characteristics, family microsystem characteristics, and neighborhood factors.

Individual and Demographic Factors
Most individuals experience some decline of health condition as they enter old age. Does health decline means less happiness in life? Different measures of health have been studied for subjective well-being. Most studies use self-assessments of health, typically asking, “In general, would you say your health is: very good, good, poor, or very poor?” An analysis from the Berlin Aging study (BASE: Baltes & Mayer, 1999) shows that self-rated health proved to be the strongest predictor of subjective well-being (Smith et al., 2002). Compared to the chronic illness and functional health, subjective health contributes greater to individual differences in life satisfaction and aging satisfaction. Disability of health condition are more incline to constraint physical activities and social activities, while subjective health influence individual’s perception of overall well-being. On the other hand, happier people and those who are more satisfied with their lives reported better health (Siahpush, Spittal & Singh 2008). Self-rated health and subjective well-being are highly correlated.

Research has shown that educational attainment is significantly correlated with subjective well-being in adulthood, but formal education has only a small influence on older adults’ subjective well-being (Witter, Okun, Stock & Haring, 1984). Layard (2005) also mentioned that education has a small direct effect on happiness, and education increases happiness by raising income. Individual unemployment has a large negative effect on subjective well-being (Clark & Oswald, 1994). No doubt employment status is related with income, and unemployment brings income decrease. Pinquart and Sorensen (2000) synthesized findings from 286 empirical studies They reported that socioeconomic status explains 2.2% to 3.2% of the variance of subjective well-being, and only 3.2% to 4.4% of the variance of subjective well-being is explained by income in old age.
Several studies have found a positive relationship between age and subjective well-being (Campbell & Sawer, 1976; Fernandez & Kulik, 1981; Hong & Giannakopoulos, 1994). Subjective well-being (especially life satisfaction) remains stable throughout adulthood and does not show large negative age differences even at very old ages (e.g., Diener & Suh, 1997; Smith et al., 1999). Old people are more satisfied with their lives since most of them have achieved their expectations in later years. Moreover, older adults are more likely to compare themselves with people whose levels of well-being are considered to be lower than their own. This is called downward social comparisons (Gana, Alaphilippe & Bailly, 2004).

Some research has found no gender difference in subjective well-being. However, Inglehart (2002) found a gender difference in subjective well-being. Women whose age was under 45 tended to be happier than men. In contrast, older women were less happy especially in rich societies (Inglehart, 2002). Most investigators have found that race/ethnicity is not significantly related to subjective well-being (e.g., Campbell & Sawer, 1976). Even when significant bivariate racial/ethnic differences are observed, they usually disappear when socioeconomic status is taken into account (e.g., Brown, 1988; Krause, 1993).

Family factors

Family is a fundamental unit of society. It serves both family members and society; it provides economic support and protections to vulnerable members (Ooms, 1996). Family structure and family economic are commonly related to family members’ well-being and attainment. Research has emphasized the relationship between family
factors and life satisfaction in childhood, adolescence, and adulthood. For example, research has examined the relationship between marital status and subjective well-being. For general population of older people, studies show married people to have higher average subjective well-being score (Larson, 1978). Along with changes in health, changes in marital status were the strongest predictors of changes in subjective well-being (Mroczek & Spiro, 2005). Other cross culture research has shown that being married was strongly and significantly related to higher subjective well-being (Diener, Gohm, Suh & Oishi, 2000). The sample was from 42 nations, and median sample size was 1,027 per nation. They also concluded that the relations between marital status and subjective well-being are similar across the nations. It has also been found that when age was controlled, marital status was a less powerful predictor of subjective well-being among people age 65 and older than among those between 40 and 64 years old (George, Okun & Landerman, 1985).

Some conventional knowledge holds that money can buy happiness. In reviewing 30 years of research on subjective well-being of older Americans, Larson (1978) showed the established relationship between socioeconomic status and subjective well-being. And the correlations are consistent in showing mostly modest correlations between income and subjective well-being (Diener & Diener, 2002). Older persons of lower socioeconomic status tend to have lower subjective well-being. Therefore, family economics is considered to be a factor of prime importance to the welfare of the elderly (Streib & Beck, 1980), which directly influence on their satisfaction with life.
Recent theory also demonstrates other propositions regarding the relationship between income and subjective well-being (e.g., Diener et al., 1999, Cummins, 2002). Cummins proposes that money buys happiness to the extent that external resources permit optimal functioning of the subjective well-being. Level of income can decrease or increase with an individual’s availability of living resources. Poor people with poor nutrition and limited medical care increase their possibility of illness and disability. Poor people living in a more violent neighborhood are likely to experience bullying, fear and insecurity. They are likely to have more limited life choices. All these conditions may lead to low life satisfaction with negative influence on subjective well-being. Therefore, income is a strong predictor of subjective well-being, especially for the poor population.

However, income becomes less related to subjective well-being when people have sufficient resources to support basic needs. Their needs go beyond the resources which money can buy, associated with Maslow’s hierarchy of needs. A well known Easterlin (2001) wealth-happiness paradox study concluded the same result that additional increases in wealth do not result in higher levels of happiness.

Neighborhood indicators

Neighborhood is a very important microsystem in which people live. The neighborhood environment influences social interaction directly, which potentially effects on people’s satisfaction of daily life. Neighborhoods contain two different types of environments: physical environments and social environments. Pearlin and Skaff (1996) found that as people aged they may become increasingly wary of the quality of their community and neighborhood environments for their safety.
Therefore, living in a safe, friendly neighborhood is very important, as reported by the elderly themselves (Cantarero, Potter & Leach, 2007).

Individuals have enduring social interactions with neighbors. Neighbor’s life condition is also another potentially important factor. One way that neighbors can have effects on an individual’s subjective well-being is through social comparison. The idea is that individuals will be happier if their income is higher than people lived nearby, but will be less happy if they are below the reference standard (Diener et al., 1995). For the standard of comparison, there are upward social comparisons and downward social comparisons. For the upward comparison, people who are likely to compare themselves to someone more advantaged are inclined to view lives negatively. In the contrast, people who view lives positively are likely to choose someone less advantaged to compare. Research indicates that older adults are more likely to use downward social comparisons than are young and middle-age adults (George, 2006).

Along with the decreased work or retirement, social interactions decline over old age, church may become an important place for people again. After children grow up and leave home, the house became an empty nest, which means parents have more time for activities beyond families. Religious participation, specifically attending religious services, is a strong predictor of subjective well-being for older adults (Ellison et al., 2001; Warr et al., 2004). Also Krause (2003) has reported that finding meaning through religion is positively related to subjective well-being. Religion and the church community can be a source of social activities and support and also possibly a comfort during
stressful times. Evidence has been found in support of the stress-buffering effects of religious beliefs enhance life quality (Kirby et al., 2004).

Actively religious people have reported markedly greater happiness and life satisfaction than irreligious people (Ciarrochi & Deneke, 2005). Religion in people’s life has been studied in spiritual beliefs and church attendance. Seligman (1988) has argued that a loss of meaning underlies today’s high depression rate, and that finding meaning requires an attachment to something larger than the lonely self.

A study of happiness in the United States showed 43% of weekly or more church attenders and 26% of seldom or never church attenders reporting themselves “very happy” (Pew, 2006). In National Opinion Research Center (2006) surveys, 40% of people who feel extremely close to God feel very happy, compared to 24% of those who do not feel close to God. There are no marked differences in happiness by religion. About one in three Protestants, Catholics, and Jews have reported being very happy (Myers, 2008).
CHAPTER 3

METHODOLOGY

This is a cross-sectional study of elders’ subjective well-being from the human ecological perspective. Individual characteristics and intimate social context will be examined. Family is the primary microsystem in which elders interact physically and socially, other microsystems like church and neighborhood also play important roles in elderly well-being.

Data Source

The data for this research is from the General Social Survey (GSS). The GSS is a personal interview survey of U.S. households conducted annually by the National Opinion Research Center. It is repeated cross-sectional surveys from 1972 to 2008, and provides the best national-representative source of data on happiness and is part of the World Database on Happiness (Yang, 2008). There is a wide range of questions including demographic, behavioral, and attitudinal questions, with a sample size that ranges between 1,500 and 3,000 respondents in each wave. The response rate over years ranges from 73% to 79% (Louis & Zhao, 2002).

The present study is based on the most recent available subset of GSS in 2008. The total sample size of this subset is 2,023, and consists of 529 cases of people aged over 60 years, including 232 males and 297 females. Most respondents in the sample are white.
Measures

Subjective well-being is assessed in the GSS as a single question about general happiness: “Taken all together, how you would say things are these days—would you say that you are very happy, pretty happy, or not too happy?” The responses are coded as 1, 2, and 3 respectively. In this research the responses were recoded so that 3 represents very happy, 2 represents pretty happy, and 1 represents not too happy. I would have been preferable to use a multiple item scale to measure subjective well-being, but because secondary data analysis is utilized in this study, it is not possible to reconstruct a subjective well-being scale out of the GSS. However, this is one of the most commonly used measures for subjective well-being or happiness in the United States. Moreover, it has been found that single item measures of happiness are both valid and reliable (Crooker & Near, 1998).

There are three levels of independent variables to predict elders’ subjective well-being: individual, family, neighborhood.

The individual level characteristics of elderly included social class, work status, and degree. The measure of social class asks: Which would you say you belong in: the lower class, the working class, the middle class, or the upper class? The responses were coded as: (1) lower class, (2) the working class, (3) the middle class, and (4) the upper class. Work status is a six category variable: full-time worker, part-time worker, unemployed, retired, keeping house, and other. It was recoded into four groups: (1) not work or other, (2) retired, (3) working part time, and (4) working full time. Education was measured by degree. Responses included (0) less than high school, (1) high school,
(2) associate/junior college, (3) bachelor’s, (4) graduate. The responses were recoded from 1-5 (eliminating zero code) to be consistent with other variables.

Family level variables were marital status, family economics, and family size. Marital status was asked by “Are you currently – married, widowed, divorced, separated, or have you never been married?” It was recoded into (1) married and (2) unmarried. Family economics was assessed in terms of family financial situation, which was measured by asking “so far as you and your family are concerned, would you say you are (1) pretty well satisfied with your present financial situation, (2) more or less satisfied, or (3) not satisfied at all.” The categories of responses of the two variables were reverse coded as well. Family size was asked by how many family members in the household.

Neighborhood social environment was measured by social interaction with neighbors and church attendance. Social interaction within neighbors was asked by “How often you spend a social evening with someone who lives in your neighborhood”? Responses categories consist of (1) almost every day, (2) once or twice a week, (3) several times a month, (4) about once a month, (5) several times a year, (6) about once a year, and (7) never, and also was recoded in ascending order.

The interaction with church was measured by church attendance. Church attendance was asked by “how often do you take part in the activities and organizations of a church or place of worship other than attending services?”, response categories include (1) never, (2) less than once a year, (3) about once or twice a year, (4) several times a year, (5) about once a month, (6) 2-3 times a month, (7) nearly every week, (8) every week, (9) several times a week, (10) once a day, (11) several times a day.
Data Analysis

SPSS 17 was used to analyze the data. First, descriptive statistics were calculated, including frequencies, percentages, means and standard deviations, as appropriate, to give a general description of all variables used in this study. And the number of missing data for every variable was also be given; missing data less than 10% was considered as missing at random (Shrive et al., 2006).

Second, chi-square analysis was used to test the relationships between each categorical independent variables and dependent variable. While one way ANOVA f test was used to test the association between continuous independent variables and the response variable.

Third, ordinal regression was used for the main hypothesis testing. Ordinal regression is appropriately used when the dependent variable is ordinal which is indicated by ranked categories. Here, the dependent variable general happiness has three categories: very happy, pretty happy, and not too happy. The response is considered to be ordered from not too happy as the lowest level of happiness to very happy. Ordinal regression in SPSS is an extension of the general linear model to ordinal categorical data. There are three levels of predictors, and the purpose of this study is to test the interaction between subjective well-being and three levels of social context. First, the demographic and individual characteristic was put into the model. And then all predictor variables from three ecological levels were put into the model together to see which variables predicted the elder’s subjective well-being.
This chapter describes the findings from this study. Two sections are included, first descriptive analyses of all variables considered and the association between dependent variable and all independent variables in the study are presented, and then the results of the ordinal regression analysis are exhibited to predict the elderly subjective well-being from the set of individual, family and neighborhood level factors.

Descriptive Analyses

The original sample (N=529) was obtained from the General Social Survey cross-sectional 2008 on condition that respondents were aged 60 and over. However, the sample had to be reduced due to the design of GSS. There were three random sub-samples: A (N=171), B (N=160) and C (N=198). Sample C did not include the variable social contact frequency. However, social contact frequency was an important variable in the study, and the main hypotheses could not be tested without it. Therefore, sub-sample C was eliminated from the study. Health was only asked for sub-samples A and C. Therefore, health was excluded from the analyses. Since they were random sub-samples, the two sub-samples (A and B, N=331) were used in this study. In addition, 10 cases were discarded in the analyses because of having missing values in variables (See appendix B). Finally, complete information was retained from 321 respondents.

Table 1 presents descriptive statistics related to categorical variables including frequencies and percentages in each response group, also associations between general
happiness and categorical independent variables are presented in this table. The majority of respondents seemed to be pretty happy (54.0%) with life overall; however 33.5% were very happy and 12.5% were not too happy. Demographic factors (i.e. age, gender and race) have been controlled in the study. Among respondents from all ages, mostly were from 60 to 79 age range and took 85.7% of the whole sample. The sample was 46.7% male and 53.3% female with a mean age of 69.84. And 53.3% were married while 46.7% were unmarried. With regard to ethnicity, the sample included 85.0% white, 11.5% black, and 3.4% other ethnic groups. Most of the respondents were retired (56.4%).

Associations between categorical variables were carried out by Chi-square tests of independence. Gender, race, degree, work status, social class, marital status, family economics, social contact frequencies and church attendance were tested with general happiness. Among all nine independent variables, the result showed that marital status, family economics and church attendance were significantly associated with elders’ subjective well-being. As can be seen by the frequencies cross tabulated in Table 1, there is a significant relationship between marital status and elderly subjective well-being, $X^2 (2, N = 321) = 20.353, p < .001$. More respondents who chose pretty happy and very happy were married than unmarried elderly. In contrast, the percentage of unmarried respondents in the not too happy group was higher than that of married ones. When looking at the family economics, different satisfaction with family financial situation were not equally distributed in the population, $X^2 (4, N = 321) = 37.909, p < .001$. Only 2.1% elderly where were satisfied with their family financial situation were in the not too happy category, while 20.6% were very happy. For respondents who were not at all satisfied, 1.8% more respondents were not too happy than who were very happy. For the
religious participation, the percentage of respondents were differed by the frequencies of church attendance, $X^2 (8, N = 321) = 18.247, p = .019$. It is obvious that most people who attend church activities every week were happy, only 3 persons were not too happy. For the rest of the categories which are less than every week, most respondents were pretty happy.

Table 1

Characteristic of respondents for categorical variables

<table>
<thead>
<tr>
<th>Measures</th>
<th>General happiness</th>
<th>Pearson Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not too happy</td>
<td>Pretty happy</td>
</tr>
<tr>
<td>N (%)</td>
<td>41 (12.5)</td>
<td>175 (54.0)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>23 (7.2)</td>
<td>102 (31.8)</td>
</tr>
<tr>
<td>70-79</td>
<td>13 (4.0)</td>
<td>48 (15.0)</td>
</tr>
<tr>
<td>80 and over</td>
<td>5 (1.5)</td>
<td>25 (7.8)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>18 (5.6)</td>
<td>74 (23.0)</td>
</tr>
<tr>
<td>Female</td>
<td>23 (7.2)</td>
<td>101 (31.5)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>30 (9.3)</td>
<td>152 (47.4)</td>
</tr>
<tr>
<td>Black</td>
<td>8 (2.5)</td>
<td>18 (5.6)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (0.9)</td>
<td>5 (1.6)</td>
</tr>
<tr>
<td>Degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>14 (4.4)</td>
<td>23 (7.1)</td>
</tr>
<tr>
<td>High school</td>
<td>14 (4.4)</td>
<td>98 (30.5)</td>
</tr>
<tr>
<td>Junior college</td>
<td>3 (0.9)</td>
<td>10 (3.1)</td>
</tr>
<tr>
<td>Bachelor</td>
<td>6 (1.9)</td>
<td>26 (8.1)</td>
</tr>
<tr>
<td>Graduate</td>
<td>4 (1.2)</td>
<td>18 (5.6)</td>
</tr>
<tr>
<td>Measures</td>
<td>General happiness</td>
<td>Total</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>Not too happy</td>
<td>Pretty happy</td>
</tr>
<tr>
<td><strong>Work status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working full-time</td>
<td>8 (2.5)</td>
<td>36 (11.2)</td>
</tr>
<tr>
<td>Working part-time</td>
<td>4 (1.3)</td>
<td>11 (3.4)</td>
</tr>
<tr>
<td>Retired</td>
<td>18 (5.6)</td>
<td>99 (30.9)</td>
</tr>
<tr>
<td>Not work and other</td>
<td>11 (3.4)</td>
<td>29 (9.0)</td>
</tr>
<tr>
<td><strong>Social class</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower class</td>
<td>5 (1.6)</td>
<td>20 (6.2)</td>
</tr>
<tr>
<td>Working class</td>
<td>18 (5.6)</td>
<td>64 (19.9)</td>
</tr>
<tr>
<td>Middle class</td>
<td>17 (5.3)</td>
<td>87 (27.1)</td>
</tr>
<tr>
<td>Upper class</td>
<td>1 (0.3)</td>
<td>4 (1.2)</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>13 (4.1)</td>
<td>85 (26.5)</td>
</tr>
<tr>
<td>Unmarried</td>
<td>28 (8.7)</td>
<td>90 (28.0)</td>
</tr>
<tr>
<td><strong>Family economics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all satisfied</td>
<td>21 (6.5)</td>
<td>43 (13.4)</td>
</tr>
<tr>
<td>More or less satisfied</td>
<td>13 (4.0)</td>
<td>66 (20.6)</td>
</tr>
<tr>
<td>Satisfied</td>
<td>7 (2.1)</td>
<td>66 (20.6)</td>
</tr>
<tr>
<td><strong>Social contact</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>21 (6.5)</td>
<td>46 (14.3)</td>
</tr>
<tr>
<td>Once a year</td>
<td>1 (0.3)</td>
<td>26 (8.1)</td>
</tr>
<tr>
<td>Several times a year</td>
<td>2 (0.6)</td>
<td>26 (8.1)</td>
</tr>
<tr>
<td>Once a month</td>
<td>7 (2.1)</td>
<td>19 (6.0)</td>
</tr>
<tr>
<td>Several times a month</td>
<td>2 (0.6)</td>
<td>24 (7.5)</td>
</tr>
<tr>
<td></td>
<td>6 (1.9)</td>
<td>25 (7.8)</td>
</tr>
<tr>
<td></td>
<td>2 (0.6)</td>
<td>9 (2.8)</td>
</tr>
<tr>
<td><strong>Church attendance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>23 (7.2)</td>
<td>75 (23.4)</td>
</tr>
<tr>
<td>Once a year</td>
<td>9 (2.8)</td>
<td>27 (8.4)</td>
</tr>
<tr>
<td>Several times a year</td>
<td>2 (0.6)</td>
<td>29 (9.0)</td>
</tr>
<tr>
<td>At least once a month</td>
<td>4 (1.2)</td>
<td>23 (7.2)</td>
</tr>
<tr>
<td>Every week</td>
<td>3 (0.9)</td>
<td>21 (6.5)</td>
</tr>
</tbody>
</table>
Test of Main Hypotheses

The main hypotheses were tested using Ordinal Logistic Regression. Eight variables were hypothesized as predictors of elders’ subjective well-being which was measured by general happiness. When entering the blocks of predictors, there are two options in SPSS 17. Factors are for categorical variables, while covariates are for continuous variables. Therefore, two of them (age and family size) were entered into covariates, while seven of them (subjective class, degree, work status, marital status, family economics, social contact and church attendance) were entered into factors. Also, the demographic variables have been taken in control, included age, gender and race.

Choosing the link function was a major decision before running the ordinal regression. Probit link function was used in the model. It is crucial to choose link functions in constructing the model to demonstrate the model appropriateness. The link function is the function of the cumulative probabilities that results estimation of the model. Five different link functions are available in the Ordinal Regression procedure in SPSS: logit, probit, negative log-log, complementary log-log, and cauchit. For typical application for each link function, see appendix C.

Looking at the distribution of outcome variable, general happiness, the middle category pretty happy had the highest probability and there were no extreme values. So, complementary log-log, negative log-log and cauchit link were not appropriate. The commonly used logit link required equal categories of the dependent variable. Therefore, probit link function was chosen to apply for the model since the general happiness was closer to normal distribution, which is shown in Figure 2.
Figure 2

Distribution of general happiness

Table 2 shows the results of the Ordinal Logistic Regression. Demographic factors were controlled in the model. To test the effects of individual, family and neighborhood factors, three demographic factors and three individual variables were included in the model. Among these variables, there are three significant factors in predicting subjective well-being of elderly.

Subjective well-being of elderly was significantly associated with three variables (marital status, family economics, and church attendance). Of these three significant predictors of elders’ general happiness, two (marital status and family economics) of
them were on the family level while one (church attendance) was on the neighborhood level.

Regression coefficients are shown in Table 2. Each category of every variable has a coefficient, which means each category is compared to the last group respectively. Form the observed significance level in the Table 2, you see that marital status, family economics and church attendance are all predicting the elderly subjective well-being. Compared to the unmarried group, Married (code 1) elderly are more likely to have higher scores of subjective well-being ($p = .001$). Family economics and church attendance both have negative coefficients. Family economics adequacy, which has three categories (i.e., not at all satisfied, more or less satisfied, and satisfied), the first two groups were compared to the last group. Elderly who are not at all satisfied with their family financial situation are less likely to have higher scores on subjective well-being ($p < .001$). This applies also to the elderly more of less satisfied with family economics ($p < .001$). Church attendance is the other significant predictor positively related with subjective well-being of elderly. Among all categories (i.e., never, once a year, several times a year, at least once a month and every week), elderly who attend church activities several times a year seems not related to subjective well-being ($p = .834$). While elderly who attend church never ($p = .047$), once a year ($p = .003$) and at least once a month ($p = .027$) tend to have lower subjective well-being compared to who attend weekly. Age does not appear to be related to elderly subjective well-being.

In addition, the pseudo R square measured the success of the model in explaining the variances in the data. The interpretation of pseudo R square in the ordinal regression
model was similar to that of the R square in linear regression. The pseudo R square indicated that the proportion of variances in the outcome variable was accounted by the explanatory variables; the larger the pseudo R square, the better the model fitting (Chen & Hughes, 2004). Based on Nagelkerke Pseudo-$R^2$, 29% of variance was explained by the model with individual, family and neighborhood factors.

Table 2

Results from ordinal regression models predicting elderly subjective well-being

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Predictor</th>
<th>Estimate</th>
<th>Std. Error</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.001</td>
<td>.010</td>
<td>.901</td>
<td></td>
</tr>
<tr>
<td>[Sex=male]</td>
<td>.078</td>
<td>.139</td>
<td>.574</td>
<td></td>
</tr>
<tr>
<td>[Sex=female]</td>
<td>-0.022</td>
<td>.380</td>
<td>.953</td>
<td></td>
</tr>
<tr>
<td>[Race=white]</td>
<td>-.002</td>
<td>.424</td>
<td>.997</td>
<td></td>
</tr>
<tr>
<td>[Race=black]</td>
<td>.010</td>
<td>.139</td>
<td>.953</td>
<td></td>
</tr>
<tr>
<td>[Race=other]</td>
<td>.380</td>
<td>.901</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Individual factors</th>
<th>Predictor</th>
<th>Estimate</th>
<th>Std. Error</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Degree=Less than high school]</td>
<td>.187</td>
<td>.296</td>
<td>.527</td>
<td></td>
</tr>
<tr>
<td>[Degree=High school]</td>
<td>.491</td>
<td>.255</td>
<td>.054</td>
<td></td>
</tr>
<tr>
<td>[Degree=Junior college]</td>
<td>.351</td>
<td>.373</td>
<td>.348</td>
<td></td>
</tr>
<tr>
<td>[Degree=Bachelor]</td>
<td>-.075</td>
<td>.290</td>
<td>.797</td>
<td></td>
</tr>
<tr>
<td>[Degree=Graduate]</td>
<td>.296</td>
<td>.054</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Work status=full-time]</td>
<td>-.149</td>
<td>.245</td>
<td>.543</td>
<td></td>
</tr>
<tr>
<td>[Work status=part-time]</td>
<td>.344</td>
<td>.301</td>
<td>.253</td>
<td></td>
</tr>
<tr>
<td>[Work status=retired]</td>
<td>.096</td>
<td>.193</td>
<td>.618</td>
<td></td>
</tr>
<tr>
<td>[Work status=not work and other]</td>
<td>-.200</td>
<td>.459</td>
<td>.662</td>
<td></td>
</tr>
<tr>
<td>[Class=Lower class]</td>
<td>-.521</td>
<td>.409</td>
<td>.203</td>
<td></td>
</tr>
<tr>
<td>[Class=Working class]</td>
<td>-.303</td>
<td>.393</td>
<td>.441</td>
<td></td>
</tr>
<tr>
<td>[Class=Middle class]</td>
<td>.301</td>
<td>.253</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Class=Upper class]</td>
<td>.409</td>
<td>.203</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2 Continued

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Estimate</th>
<th>Std. Error</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family level factors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Marital status=married]</td>
<td>.659</td>
<td>.190</td>
<td>.001*</td>
</tr>
<tr>
<td>[Marital status=unmarried]</td>
<td>-1.026</td>
<td>.206</td>
<td>.000*</td>
</tr>
<tr>
<td>[Family economics=Not at all satisfied]</td>
<td>-.685</td>
<td>.166</td>
<td>.000*</td>
</tr>
<tr>
<td>[Family economics=More or less satisfied]</td>
<td>.029</td>
<td>.138</td>
<td>.834</td>
</tr>
<tr>
<td>Family size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Neighborhood level factors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Social contact=Never]</td>
<td>-.308</td>
<td>.335</td>
<td>.359</td>
</tr>
<tr>
<td>[Social contact=Once a year]</td>
<td>.058</td>
<td>.365</td>
<td>.873</td>
</tr>
<tr>
<td>[Social contact=Several times a year]</td>
<td>-.322</td>
<td>.365</td>
<td>.377</td>
</tr>
<tr>
<td>[Social contact=Once a month]</td>
<td>-.316</td>
<td>.361</td>
<td>.381</td>
</tr>
<tr>
<td>[Social contact=Several times a month]</td>
<td>.068</td>
<td>.358</td>
<td>.850</td>
</tr>
<tr>
<td>[Social contact=Several times a week]</td>
<td>-.086</td>
<td>.348</td>
<td>.806</td>
</tr>
<tr>
<td>[Social contact=Almost daily]</td>
<td>-.448</td>
<td>.225</td>
<td>.047*</td>
</tr>
<tr>
<td>[Church attendance= Never]</td>
<td>-.774</td>
<td>.262</td>
<td>.003*</td>
</tr>
<tr>
<td>[Church attendance= Once a year]</td>
<td>-.055</td>
<td>.260</td>
<td>.834</td>
</tr>
<tr>
<td>[Church attendance= Several times a year]</td>
<td>-.615</td>
<td>.277</td>
<td>.027*</td>
</tr>
<tr>
<td>[Church attendance= At least once a month]</td>
<td>.225</td>
<td>.260</td>
<td>.834</td>
</tr>
<tr>
<td>[Church attendance= Every week]</td>
<td>.260</td>
<td>.277</td>
<td>.806</td>
</tr>
</tbody>
</table>

Last group of categorical predictors is the reference group with no values.

R² shown are Nagelkerke Pseudo-R².

Model Fitting Information

When fitting an ordinal regression you assume that the independent variable coefficients were equal across all levels of the outcome variable. That is, the slope for class in “very happy” is the same as the slope for class in “pretty happy”. This is confirmed in Table 3. The observed significance levels for both models were large enough accept the hypotheses, which indicated the models were satisfied. More model fitting information can be found from goodness of fit; the null hypothesis is that the
distribution fits the data. The results can be seen from Table 4, the Pearson’s chi-square indicated the overall model was fit.

Table 3

Test of parallel lines

<table>
<thead>
<tr>
<th></th>
<th>-2 Log Likelihood</th>
<th>Chi-Square</th>
<th>Df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null hypothesis</td>
<td>521.852</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>486.849</td>
<td>35.003</td>
<td>28</td>
<td>.170</td>
</tr>
</tbody>
</table>

Table 4

Goodness of fit

<table>
<thead>
<tr>
<th></th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
<td>616.717</td>
<td>606</td>
<td>.373</td>
</tr>
<tr>
<td>Deviance</td>
<td>519.080</td>
<td>606</td>
<td>.995</td>
</tr>
</tbody>
</table>

Overall, the model fits well. Three out of eight variables were observed that they significantly predicted elderly subjective well-being in the complete model, and they were all family and neighborhood factors. Marital status and family economics are on family level, and church attendance is on the neighborhood level.
CHAPTER 5

DISCUSSIONS

In this study, the human ecological perspective was adopted as a foundation for an analysis which focused on the elderly subjective well-being. Specifically, it examined the family and neighborhood factors in addition to the individual indicators which are found to be the most consistent factors in previous research. Based on Bronfenbrenner’s view, proximal process is essential to the process of development, the results of this study suggested that elderly family background (financial situation) and the interaction with churches indicated the elderly subjective well-being.

The discussions of the results are presented in three parts. The first part examines key findings from the research, with discussions of factors important to the changes and increases in elderly subjective well-being. The second part discusses the limitations in the study. And the third part brought implications for child development and future research.

Key Findings

This study describes the subjective well-being of elderly individuals and identifies some critical factors to understand it. Overall, the findings support the human ecological perspective for understanding factors that make an impact on the subjective well-being of elderly at the individual, family or neighborhood levels.
It is helpful to first look at the demographics. The characteristics of the demographic data show that the sample is fairly representative. The final sample size is 321, which is large enough for a national sample. Also the male and female respondents were quite equally selected, so were the married and unmarried groups, as shown in Table 1. There were 85% white elderly, 11.5% black elderly and 3.4% from other ethnic groups. This was similar to the United States Census Bureau’s race ratio report in 2009 (79.6% white, 12.9% black and 7.5% others). As a result, the sample was able to represent the national elder population without over-sampling any given race.

The mean score of the general happiness for elderly is 2.20 on a 3 point scale, which is higher than the mean score (M=1.89) of the entire population. Less work pressure has been identified as one of primary factors in higher subjective well-being in later life. A role strain perspective states that retirement from the demands of a job may reduce role strain, thereby enhancing subjective well-being (Kim & Moen, 2001). In this study, only 17.8% of the respondents were working full-time, and 56.4% were retired. We can see that the elderly tend to work less than younger adults. But no significant relationship has been found between work status and the elderly subjective well-being in this study.

This study has also found that marital status and family financial situation on the family level were the most important predictors for elderly subjective well-being. Married elders tend to be happier than unmarried ones. The marital relationship is one of the subgroups in the internal family system. This organizes
the internal structure of the family system, which consists of individually subsystems and their roles and relationships with each other (Griffore & Phenice, 2001). Regardless of marital status, the different internal family structure affects the elderly family life experience and communication or information processing, which directly influences their quality of life.

Family economics is another factor that has been discussed in previous studies related to elderly subjective well-being. The association between family economics and elderly subjective well-being has also been found in this study, and it is one of the major predictors. Here respondents’ satisfaction of the family financial situation was a subjective measurement in family economics. People who were more satisfied with their family financial situation were more likely to have a higher subjective well-being. From the human ecological perspective, money is a type of energy flow (Odum, 1994). Higher income enhances subjective well-being as it is beneficial to elderly fulfilling their basic needs (Diener & Diener, 2002). Elderly use money as an exchange medium, which is the means to pertain resources and satisfactions.

In the neighborhood level, this study found that religious participation is a major and positive predictor of subjective well-being for older adults. Those who going to church on a regular basis have better subjective well-being than those who do not. This finding was consistent to the literature stating that religion tends to be an especially powerful buffer against stress among elderly people (Boyden & Aronui, 2001). Church is an important interactive agent in the neighborhood. It is
also a great social interaction place besides family in the microsystem. It could as well be seen as an external family system that influences the family atmosphere and members in it. However, another variable of neighborhood level social contact was not a significant predictor in this study. Social contact has been discussed as a stronger predictor in previous studies.

In this study, age has not been found to be related to elderly subjective well-being. Some cross-sectional studies have reported that a positive relationship between happiness and age. In the contract, longitudinal studies have indicated that happiness showed a slight decrease after age 65 which is a peak. Moreover, age has not been found to be associated with subjective well-being across different age groups. People’s well-being is quite steady across the life span. It is not age alone that significantly affects subjective well-being change, but rather significant life events (Myers, 1992). Also mentioned in this study, significant life events and related social activities are important to subjective well-being. Marital status is the one of major factors in older adults’ quality of life. A healthy marriage is positively related to elderly life satisfaction, as well as social activities in the community or church play an important role in their subjective well-being.

Limitations

One of the limitations in this study was the use of a single item for measurement of subjective well-being. Multi-item measurement has been considered during the study. Specifically in General Social Survey, domain satisfactions have been considered to be included in the measurement. Domain
satisfaction refers to the particular satisfaction in different life domains, such as satisfaction with city, satisfaction with hobby, satisfaction with family, satisfaction with friends and satisfaction with health, presented in GSS data before 1994. Due to the lack of domain satisfaction data in most recent dataset in GSS, it has not been used in this study. This is an inevitable limitation for using secondary data analyses.

On a consistent basis, family economics has significantly contributed to our understanding of elderly subjective well-being. In this study, family economics was measured by subjective satisfaction of the family financial situation. There were also objective family income measures found to be positively related to the subjective well-being (McLaughlin & Carter, 2007). Integrating the objective family income with subjective family financial satisfaction will provide a better understanding of family economics.

In this analysis, the pseudo R-square is not large. There might be other variables not included that could have effect on elders’ subjective well-being. Due to the constraint of using an existing dataset, not all related variables can be included in this study. Health, which is a potential predictor of subjective well-being, was not included for reasons that have been discussed previously. What is more, this study is focused on the microsystem factors, by using the ecological perspective. Contextual factors associated with other levels of the ecosystem could well be considered in future research. Social policies about health care could also be an important factor, as well as the community facilities, social service
organizations and the economic atmosphere. Therefore, out of the scope of this study, more factors are encouraged to be included in future research.

Implications for Children’ Subjective Well-being

This study looked at the environmental factors of subjective well-being of elderly. Another recent study addressed positive and negative life events as determinants of subjective well-being in young, middle-aged and old adults from a life span perspective (Gomez, Krings, Bangerter & Grob, 2009). The life span perspective views that human development is a continuous growing process, the behaviors in later life stages were still influenced by the past. This implies the meaning of studying the subjective well-being on the early childhood development. In research on the subjective well-being, for most studies, the age ranges from teenagers to the elderly. Few studies have been focused on children. There are some implications on studying children’ happiness generated from the study of elderly subjective well-being under the human ecological framework.

First of all, children’ subjective well-being itself should be a concern of future research. Research could address life satisfaction during the childhood years, because children’ perceived happiness is as important as the objective living environment for their quality of life. As previously shown the study focused on elderly subjective well-being indicated that the significance of the family and neighborhood factors. With regard to children’s happiness, it would be very important not only to look at their personality or other biological characteristics. Family background and community and neighborhood environment are also
important. This study suggests that family and other proximate contexts might be influential to the subjective well-being of children also, because family and community are places children involve themselves and have close interaction with.

We have seen that the family financial situation is one of the most important predictors of elderly subjective well-being. As described above, money is the medium for information, materials and other resources flow. This is fundamental for individual to attain satisfaction, both physically and mentally. Besides findings from this study, another study focused on adolescence drew the same conclusion. Discontent with the financial situation significantly reduced the quality of mental health, leading to inappropriate patterns of behaviors, and endangers future well-being of adolescents (Pranjic, Brkovic & Beganlic, 2007). Therefore, family financial situation might be also important to promote children’ subjective well-being. And the family structure, the internal relationship between family members should also be included in the consideration of factors affecting children’ happiness.

As mentioned earlier, subjective well-being is quite stable across different age groups, and age alone does not account for the changing of subjective well-being, whereas significant life events are likely to be more important. From the findings in this study, it is clear that significant life events and related social activities are important to elderly subjective well-being, this could as well be true for children’ happiness. Obviously, significant events for children are quite
different from older adults’ experience. For example, going to school, relocation, or parents’ relationship change can be influential to their subjective well-being.

Moreover, grandparents caregiving could be an indicator of children’s well-being. Bronfenbrenner (1977) referred to the environmental systems closest to the individual as the Microsystems, which for most children, is very likely to be the family and places such as school or their grandparents’ homes. In some families, grandparents are taking responsibilities for their grandchildren. It is estimated that 39% of grandparents responsible for their co-resident grandchildren will be responsible for their grandchildren for 5 years or more (U.S. Census Bureau, 2003). So, subjective well-being of elderly is important to the happiness of children since they are living together and influencing on each other, especially for those grandparents caregiving families. Any changes in grandparents as a result of caregiving are likely to result in changes in the environment of the children for whom they are (Jooste, 2007).

Implications for Future Research and Policies

The findings in this study supported the utility of a human ecological perspective for understanding factors influencing the subjective well-being of elderly at the individual, family and neighborhood levels. Future research should include these contextual factors affecting elderly subjective well-being. Future research is needed on elders’ family environment to better understand the family context affecting the elderly well-being. What are the family risk factors for elderly subjective well-being? What are the exactly risk factors for unmarried elders? This
study primarily studied on the microsystem factors. There are also mesosystem, exosystem and macrosystems in the social ecosystems. Future research on elderly subjective well-being including larger contextual factors is suggested to study this topic under the full human ecological structure.

Experience sampling methodology (ESM; Diener, 2000) is an innovative methodology for the assessment of subjective well-being. ESM involves the use of palm computer technology to obtain a random sampling of a person’s mood and cognitions over time, with this technology, researchers can obtain a record of the ongoing subjective experience of the respondent without relying on the retrospective reports of these subjective stats (Pavot, 2008). Thus, ESM is not applied for this secondary cross-sectional data analysis, because it requires repeated experiential reports throughout the day or week. A longitudinal design using ESM is suggested for research in the future.

The findings in regard to family factors have provided implications for the elder social services. An individual’s subjective well-being is related to his or her relationship status and family economics. It is unlikely that happiness of the elderly will be increased simply by expanding individual physical and mental activities. Focusing on the family situation could also be important, like family financial situation. As George (1992) pointed out, the integration of subjective measures (financial satisfaction) and objective income measures may provide useful insight for policy makers in approaching the issue of income adequacy for income maintenance programs. And since subjective well-being is an important part of
successful aging, the study of subjective well-being provides a criterion for
evaluations of policies in older population.

Conclusions

This study identified factors relating to elderly subjective well-being based
on a human ecological perspective. The scope of the study is limited to a certain
level of analysis at the microsystem (individual, family and neighborhood levels) in
order to concentrate on related factors mostly found in the previous research. The
results explained some significant family and neighborhood factors in addition to
the individual characteristics. I hope this study would bring attention to the
analyses of the characteristics of important factors in the literature. Much research
has been done primarily with the focus on finding the association between
subjective well-being and individual psychological characteristics. The major
purpose of this study highlights the importance of the human ecological perspective
to look at the elderly subjective well-being.
APPENDIX
Table A1

Questions Employed in the Analyses (Source: General Social Survey 2008)

*Age.* Respondent’s age. It was calculated by subtracting the year of birth from the survey year. (AGE)

*Church attendance.* How often do you take part in the activities and organizations of a church or place of worship other than attending services? (RELACTIV)

*Class.* If you were asked to use one of four names for your social class, which would you say you belong in: the lower class, the working class, the middle class, or the upper class? (CLASS)

*Education.* Respondent’s degree. (DEGREE)

*Family economics.* So far as you and your family are concerned, would you say that you are pretty well satisfied with your present financial situation, more or less satisfied, or not satisfied at all? (SATFIN)

*Family size.* Household size and composition. (HOMPOP)

*Gender.* What is your sex – male or female? (SEX)

*Marital status.* Are you currently – married, widowed, divorced, separated, or have you never been married? (MARITAL)

*Neighborhood social.* How often spend a social evening with someone who lives in your neighborhood? (SOCCOMMUN)

*Race.* What race do you consider yourself? (RACE)

*Subjective well-being.* Taken all together, how you would say things are these days- would you say that you are very happy, pretty happy, or not too happy (HAPPY)

*Work status.* Last week were you working full time, part time, going to school, keeping house, or what. (WRKSTAT)
APPENDIX B
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Table C 1

Available Link Functions in the Ordinal Regression Procedure in SPSS

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<td>Complementary log-log</td>
<td>When probability of higher category is high (inverse of N log-log)</td>
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<td>Negative log-log</td>
<td>When probability of lower category is high</td>
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<td>Probit</td>
<td>When a dependent variable is normally distributed</td>
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<tr>
<td>Cauchit</td>
<td>Outcome with many extreme values</td>
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REFERENCES


Marriage and the Family, 42, 937–956.


