ELDERLY LIVING ARRANGEMENTS IN KOREA:

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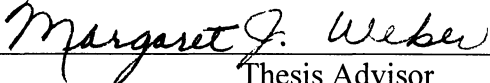
AND SUPPORT NETWORKS

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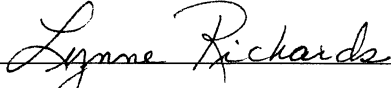
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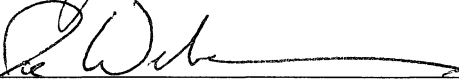ELDERLY LIVING ARRANGEMENTS IN KOREA:

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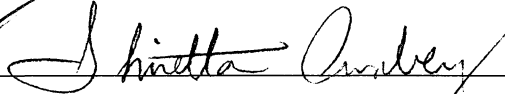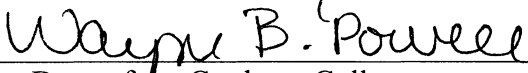
AND SUPPORT NETWORKS

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PREFACE

The format of this dissertation is to provide manuscripts suitable for publication as well as to fulfill the traditional thesis requirements. The first three chapters consist of traditional thesis requirements including the introduction, literature review, and method. Three manuscript formats, which are <u>Housing and Society</u>, <u>Environment and Behavior</u>, and <u>Korean Housing Research Journal</u> were used for chapters 4, 5, and 6. Chapter 7, which is the last chapter, includes conclusions and the implications of this dissertation.

I would like to thank my advisor, Dr. Margaret Weber, for contributing a great deal of time to this dissertation from working on its research frame to reading, guiding, and suggesting. My deep appreciation is extended to the committee members: Dr. Lynne Richards, Dr. Shiretta Ownbey, and Dr. Joseph Weber. Each committee member contributed invaluable guidance and suggestions for my graduate studies and dissertation research. I am also grateful to be given lots of academic opportunities by my advisor and Dr. Lona Robertson throughout the last semester of my doctoral program. All the ability that they showed me in education, research, and work combine to be the challenging role model for my career.

I also appreciate my Korean advisors, Dr. Kyung-Joo Shin and Dr. Jung-Shin Choi for their consistent advice and encouragement. They have trusted my potential to reach my goals and have guided me in the right direction whenever I began to stray.

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CHAPTER I. INTRODUCTION

Statement of Problem

Due to conspicuous Korean economic development in the three decades since the Korean War (1950-1953), the Korean elderly have experienced rapid changes in family structure and social norms. As Korean society is industrialized and urbanized, the traditional extended family system and family centered life values are weakened. Confucianism's stress upon children's unconditional obedience to their parents is being supplanted by individualism. That is, the nuclear family is emerging as the main family system for the elderly in Korea. In addition, two other factors are contributing to rapid changes in family structure, namely extended life span and lowered birth rate (Table 1). Declining mortality extends the length of the later years, and reduced reproduction results in fewer children to care for parents.

Table 1. Trends of Mortality and Fertility in Korea, 1960-1990

Year	Crude Death Rate (Mortality)*	Crude Birth Rate (Fertility)*
1960	16.0	45.0
1965	15.0	42.0
1970	13.0	32.0
1975	7.3	24.6
1980	6.7	23.4
1985	6.2	19.7
1990	5.8	15.6

Source: Cited from Kim (1996), p. 30-31.
*Per thousand

On the other hand, Korean elderly have problems living without family support given current socio-economic status. The social welfare scheme in Korea has been limited to the elderly who do not have a child or cannot receive appropriate care from their children since the 1960's. Most of the Korean elderly who are currently 65 years old and over are not benefiting from the national pension scheme.[1] The public still attaches a negative view to alternative environmental settings for the elderly. Several nice facilities are affordable only for the rich elderly. The children who cannot take care of their older parents still feel guilty due to the social pressure regarding filial obligations resident within the Korean traditional value system. Therefore, there are significant conflicts occurring in the decision making process of the Korean elderly about their living arrangements. Factors influencing their decisions need to be investigated to understand current needs of the elderly regarding their housing status, household composition and formal services.

Significance of the Study

Studies on the living arrangements of the elderly have been conducted over the last several decades in Korea and the U.S. But the majority of them have been limited to investigating socio-demographic determinants of the living arrangements among elderly people such as age, gender, marital status, or education. That is, researchers have not considered the elderly as decision-makers in their living arrangements, but as passive followers of their own life events. The studies that focused on attitudes of elderly people

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[1] The pension coverage was extended to the urban self-employed in 1999 since the government began to extend its compulsory coverage in the early 1990's. Ten years insured term for the reduced aged pension and 20 years for the full aged pension are needed to receive national pension benefits in Korea.

toward social norms and privacy/independence as well as their demographic status usually have ignored the effect of their family and environmental support systems that could be significant determinants of elderly living arrangements. Also the differences among the intentions to change their living arrangements, current living arrangements, and preferred living arrangements have not been measured even though many researchers have implied significant differences among them.

This study included various support systems and individual attitudes toward social norms, personal privacy and independence as well as socio-demographic resources to explain elderly living arrangements.

Therefore, this study will be helpful to researchers in gerontology, sociology, and housing areas studying effective determinants of elderly living arrangements, and also to social workers planning various service programs for the elderly and alternatives of elderly living arrangements. In addition, housing planners or housing policy makers may find beneficial information through this study regarding affordable housing environment support systems for the elderly.

Purpose of the Study

The primary purpose of this study was to theoretically examine the basis of living arrangements among the elderly in Korea. Analysis of the data included an application of Western theory, which is person-environment theory, with an evaluation of similarities and differences.

Another purpose of this study was to examine elderly individual characteristics, attitudes toward social norms, personal privacy and independence, family support, and

environmental support networks as determinants of the living arrangements among the elderly in Korea.

The third purpose of this study was to investigate the differences of current living arrangements, preferred living arrangements and the intentions to change living arrangements among the Korean elderly people.

Research Questions

The following four research questions were examined:

1. Do the elderly individual characteristics influence their current living arrangements, preferred living arrangements, and intentions to change living arrangements?

2. Do the elderly attitudes toward social norms, personal privacy and independence influence their current living arrangements, preferred living arrangements, and intentions to change living arrangements?

3. Do the support networks for the elderly influence their current living arrangements, preferred living arrangements, and intentions to change living arrangements?

4. Are current living arrangements, preferred living arrangements, and intentions to change living arrangements among the elderly related to each other?

Definitions of Terms

ADL (Activities of Daily Living): has been used to refer to a range of self-care activities as a basis for assessing individual functional status which especially measures mobility such as walking, using a toilet, or getting outside (Rogers, 1995).

Coresidence: is defined as a state of elderly living arrangements in which the elderly live with other people, such as children, relatives, or non-relatives.

Elderly individual characteristics: include, in this study, elderly demographic status comprised of age, gender, marital status, and education, elderly health status, economic status, and the characteristics of adult children: number of children, of sons, and marital status.

IADL (Instrumental Activities of Daily Living): refers to some basic tasks essential to living independently such as meal preparation, shopping, or managing money, which is more complex than ADL (Rogers, 1995).

Living Arrangements: According to Maddox (1995), "living arrangements" refers to the type of residence within institutional and private dwellings; household composition, namely the presence or absence of others in the dwelling; and the types of kin relationships among the coresidents. In this study however, living arrangements means only household composition.

Propinquity: is the degree of convenience of access to the space that people occupy or use. In this study, access to neighborhood facilities was measured.

CHAPTER II. LITERATURE REVIEW

Theoretical Background

Elderly living arrangement transitions can be considered as an adaptation to the aging process through the interaction between the older person and the environment. According to Lawton's (1982) person-environment approach, individual adaptation in a particular environment may result from a combination of individual competence and environmental press. Individual competence refers to capabilities used to cope with new environments, including functional health, perception-cognition, self-maintenance, effectance, and social role. Environmental press represents the physical, interpersonal, and social forces affecting a person, any of which will force the individual to adapt to a new situation. That means that people would not change their situation if they feel comfortable and content in the current situation, and also indicates that the previously satisfactory environment may be unsatisfactory as the person's competence for adaptation changes (Lawton, 1980). Adaptation to a new situation can take various forms. It may include changing their home location (residential mobility), their household composition (living arrangement), their housing status (institutionalization), or changing the physical structure of their living environment (Speare, Avery & Lawton, 1991; Wilmoth, 1995). This study is concerned with the household composition (living arrangement) of the elderly.

Figure 1 shows the person-environment systems applied to elderly living arrangements. In this study, individual competence refers to the elderly demographic and socio-economic status, and social forces in environmental press refer to elderly attitudes toward social norms and values. On the other hand, interpersonal forces refer to intergenerational family support, and physical forces mean environmental support for the elderly.

The aging process includes various life events such as retirement, income loss, health decline, and the death of a spouse. All these decrease the aging individual's ability to cope with their current living arrangements (Wilmoth, 1995). Besides those elderly individual characteristics represented as elderly life events, living arrangements have implications for the attitudes toward social norms, personal privacy and independence, and elderly support systems such as intergenerational family support and environmental support networks (Abulaban, 1980; Hareven, 1981; Thomas & Wister, 1984; Wister, 1985).

From this person-environment perspective, elderly living arrangements can be understood by investigations of the elderly attitudes toward social norms, personal privacy and independence, and the support networks for the elderly as well as the elderly individual characteristics.

Demographic Background in Korea

Population Aging in Korea

It is meaningful to see the changes in population structure that affect the size and composition of the family and household. As a result of the demographic transition from

Adaptation
- Changing Home Location
- Changing Living Arrangements*
- Changing Housing Status
- Changing Physical Structure

* Focus of this Study

Adjustments in Individual Competence
- Functional Health
- Perception-Cognition
- Self-Maintenance

- Effectance
- Social Role

Adjustments in Environmental Press
- Physical
- Interpersonal
- Social Forces

New Situation
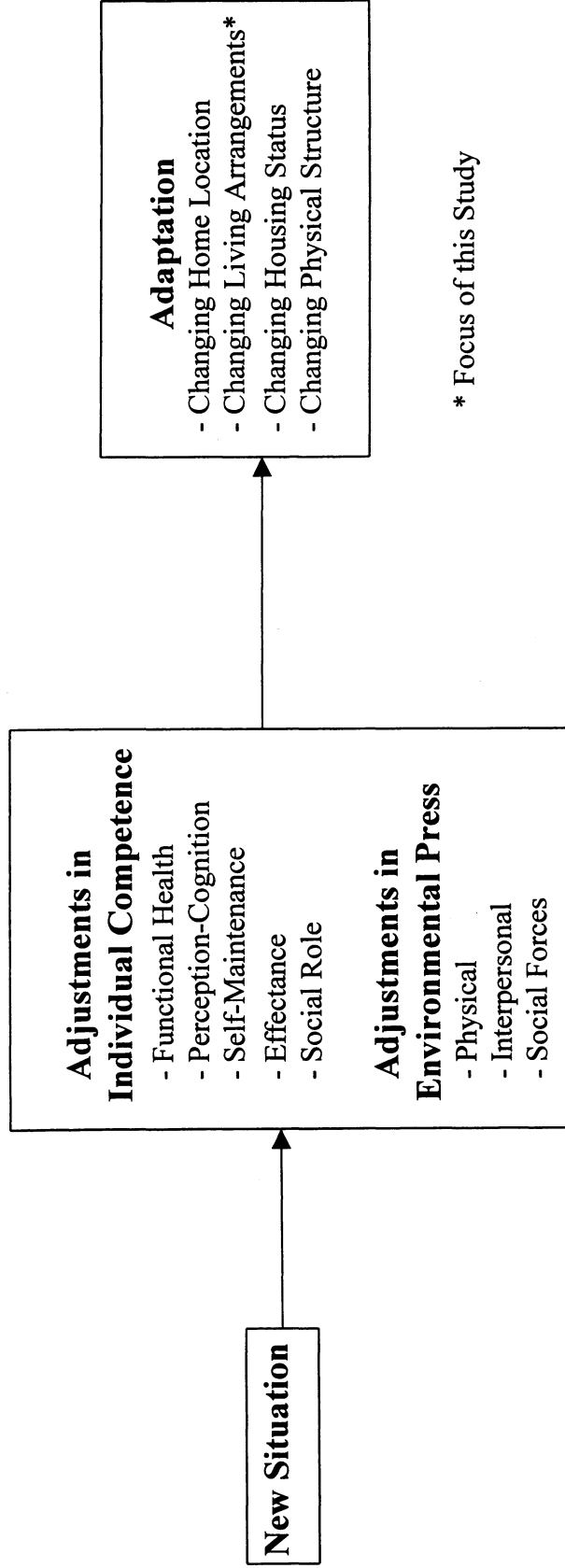
Figure 1. Person-environment systems applied to elderly living arrangements

high to low fertility and mortality, the Korean population aged 65 and over is growing faster than any other age group. A population is often considered aged when the proportion of the population aged 65 or older exceeds 10% of the overall population. Korea will approach this level early in the 21st century (Eu, 1992).

Table 2 shows the proportion of the elderly in Korea from 1960 projected to 2020. The population aged 65 and over was 3.3% in 1966, increased to 5.7% in 1995, and it is projected to be 12.5% in 2020. This four-fold projected increase in aging population from 1966 to 2020, and two-fold projected increase from 1995 to 2020 is in sharp contrast to the 0-14 age group, which shows more than a three-fold decrease from 1966 projected to 2020, and 15-59 age group, which is projected to decrease from the year 2000. The reason for the decreased proportion of elderly aged 60 and over between 1960 and 1966 was the exceeding increase in the proportion of the young population. The baby boom after the Korean War (1950-1953) occurred before a family planning program was introduced by the government in the early 1960s (Kim, 1996).

The aging velocity of the Korean population is obviously faster than that of other developed countries. According to Choe and Lee (1991, Cited from Kim, 1996), the time required to double the proportion of the people aged 65 or over from 7 to 14% was 45 years for England and it is projected to take only 26 years for Japan and 75 years for the U.S. The proportion of those aged 65 and over in Korea is expected to reach 7% by the year 2000, and it is estimated to take 25 years to double again.

Table 2. Proportions of the Elderly in Korea, 1960-2020

Percent (%)

Year Age	1960	1966	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0-14	40.6	43.5	42.1	38.1	33.8	29.9	25.7	23.2	21.2	20.3	19.1	17.5	16.0
15-59	50.6	53.2	52.5	56.3	60.1	63.3	66.7	67.8	68.2	67.6	67.1	66.6	64.5
60-64	2.3	1.9	2.1	2.1	2.2	2.5	2.7	3.3	3.9	4.0	4.3	5.2	7.0
65-69	1.6	1.5	1.4	1.6	1.7	1.8	2.1	2.3	2.9	3.4	3.5	3.9	4.7
70-74	1.2	1.8	1.9	1.9	2.2	2.5	2.9	1.7	1.9	2.4	2.8	3.0	3.4
75-79	0.6	0.6	0.6	0.6	0.6	0.8	0.9	1.0	1.2	1.4	1.8	2.2	2.3
80+	0.4	0.3	0.4	0.4	0.5	0.5	0.7	0.7	0.9	1.1	1.3	1.7	2.1
60+	6.0	5.2	5.4	5.6	6.1	6.8	7.6	9.0	10.7	12.1	13.7	15.9	19.5
65+	3.7	3.3	3.3	3.5	3.9	4.3	5.0	5.7	6.8	8.2	9.4	10.7	12.5
70+	2.1	1.8	1.9	1.9	2.2	2.5	2.9	3.4	3.9	4.8	5.9	6.8	7.8

Source: Cited from Rhee et al. (1993), p.48.

<u>Changes in Elderly Living Arrangements in Korea</u>

<u>Elderly Living Arrangement Systems</u>

Typical Korean traditional family structure exists in two types. One is the family that includes three generations, consisting of the eldest son and wife, elderly person(s), and grandchildren. The other type is a nuclear family consisting of the son other than the eldest son, his wife and children. Even though the majority of Korean families have historically been a nuclear families, elderly people were rarely separated from the eldest son (Kim, 1992). So there was no categorized elderly living arrangement in the Korean traditional family system. But the proportion of older parents living with their children is decreasing due to various recent social changes. Even though they live with their children, the instances of elderly living with other sons or daughters than the eldest son are increasing. Also, an elderly individual who may live alone or live with a spouse is increasing as a new type of elderly living arrangement which has not existed in the past.

Wilmoth (1995) showed four living arrangement states (living alone, living with spouse only, coresidence and institutionalized) that the elderly can experience and the various paths through which their living arrangements can change, including exits to death (Figure 2). She reported that there is no order for moving between the living arrangement states. One could start from any living arrangement state, or skip a certain living arrangement, pass by a living arrangement state, or return to the past state.
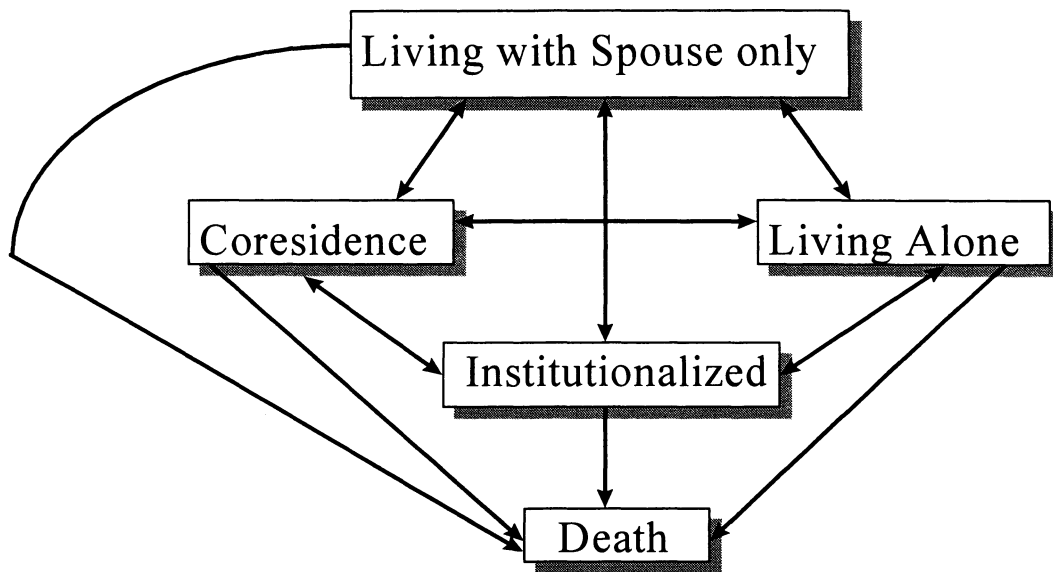
Figure 2. Elderly living arrangement transitions (Wilmoth, 1995)

Trends of Living Arrangements of the Elderly in Korea

Table 3 shows the results of two surveys on living arrangements of the elderly

from 1981 to 1994. Though each survey involved different data collection methods and

standards of classification of elderly living arrangements, the table shows two major

features of the changes during this period. One is the increased proportion of the elderly

living alone and the other is the decreased proportion of those living with children. The

proportion of the elderly living alone was only 4.3% in 1981, but increased to 7.7% in

1988 and to 11.9% in 1994. The elderly living with spouse from 1981 to 1988 increased

slightly by 0.7%. And from 1988 to 1994, there is more than a 10% increase of the

elderly living with a spouse only. On the contrary, all types of the elderly living with

their children from 1981 to 1988 showed a decrease (Table 3-1). Also as seen in Table 3-

2, there was about a 20% decrease of coresidence living arrangements from 1988 to 1994.

Table 3. Transitions of Elderly Living Arrangements in Korea

Table 3-1 Transitions of Elderly Living Arrangements in Korea, 1981 to 1988

Living arrangements	1981*	1988*	Rate of Change*
Living alone	4.3	7.7	3.4
Living with spouse	52.7	53.4	0.7
Living with married sons	54.7	41.8	-12.9
Living with married daughters	4.5	4.3	-0.2
Living with sons-in-law or daughters-in law	52.7	37.5	-15.2
Living with unmarried children	31.5	26.6	-4.9
Living with grandchildren	58.0	47.0	-11.0
Living with relatives	2.3	1.8	-0.5
Living with others	0.8	0.5	-0.3

Source: Cited from Kim (1996), p. 36.
* Percent

Table 3-2 Transitions of Elderly Living Arrangements in Korea, 1988 to 1994

Living Arrangements	1988*	1994*	Rate of Change*
Living alone	7.6	11.9	4.3
Living with spouse only	17.1	29.1	12.0
Living with children	73.0	53.8	-19.2
Living with others	2.3	5.2	2.9

Source: Cited from Rhee et al. (1989, 1994).
* Percent

As modernization theorists argued, industrialization and urbanization in Korea would shift living arrangements of the elderly from living with children to living alone or living with a spouse only. On the other hand, Kim (1996) pointed to the existence of filial piety for many generations, which has been strongly rooted in Korean culture and has not been undermined by socioeconomic and demographic changes. According to him, despite the forces of industrialization and urbanization, the Korean family still retains its role as the backbone of old age support.

CHAPTER III. RESEARCH METHODS

Research Model

The purpose of this study was to examine Lawton's person-environment theory applied to Korean elderly living arrangements. In this study, elderly individual characteristics which demonstrate elderly socio-demographic status, the attitudes, and elderly support networks were examined to explain the living arrangements among the elderly. Furthermore, this study investigated the relationship among current living arrangements, preferred living arrangements and elderly intentions to change their living arrangements in the near future.

From Lawton's person-environment model, which demonstrates individual ability to function within one's competency as the surrounding environment changes, the research model for this study was developed (Figure 3). In the research model, six types of variables were categorized as three groups of independent variables: elderly individual characteristics, elderly attitudes, and support systems for the elderly; and three dependent variables: elderly current living arrangements, preferred living arrangements, and intentions to change living arrangements in the near future.

As one of the independent variables, elderly individual characteristics included demographic status, health status, economic status and the characteristics of adult children. Demographic status included age, gender, marital status, and education of the

Determinants

Elderly Individual Characteristics

- **Demographic Status**
  Age
  Gender
  Marital status
  Education
- **Economic Status**
  Housing ownership
  Financial self-support
- **Health**
- **Characteristics of Adult children**
  Number of children
  Number of sons
  Marital status

Elderly Attitudes Toward:

- Family obligation
- Age segregation
- Personal privacy
- Independence

Support for the Elderly

- Family support
- Environmental support

Living Arrangements

Current living arrangements

Preferred living arrangements

Intentions to change current living arrangements

Figure 3. Research model of this study

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elderly. The characteristics of adult children included number of children, number of sons and marital status. Another independent variable, elderly attitudes, consisted of attitudes toward family obligations, age segregation, personal privacy and independence. Support networks were divided into family support and environmental support systems for the elderly. Family support was considered as intergenerational reciprocal care based on the study of Chen (1996) in which the intergenerational exchange is an effective determinant for obtaining information about family relationships. Neighborhood facilities were seen as environmental support for the elderly.

As dependent variables, the elderly living arrangements were investigated: current living arrangements, preferred living arrangements, and intentions to change current living arrangements.

Hypotheses

The hypotheses for this study are as follows:

H1: Elderly individual characteristics significantly influence elderly living arrangements, preferred living arrangements, and intentions to change their current living arrangements.

1-1 Elderly individual characteristics (age, gender, marital status, education, housing ownership, financial self-support, health, number of children, number of sons, and marital status of adult children) significantly influence elderly living arrangements.

1-2 Elderly individual characteristics (age, gender, marital status, education, housing ownership, financial self-support, health, number of children, number of sons,

and marital status of adult children) significantly influence preferred living arrangements of the elderly.

1-3 Elderly individual characteristics (age, gender, marital status, education, housing ownership, financial self-support, health, number of children, number of sons, and marital status of adult children) significantly influence elderly intentions to change their current living arrangements.

H2: Elderly attitudes significantly influence elderly living arrangements, preferred living arrangements, and intentions to change their current living arrangements.

2-1 Elderly attitudes toward family obligations, age segregation, personal privacy, and independence significantly influence elderly living arrangements.

2-2 Elderly attitudes toward family obligations, age segregation, personal privacy, and independence significantly influence preferred living arrangements of the elderly.

2-3 Elderly attitudes toward family obligations, age segregation, personal privacy, and independence significantly influence elderly intentions to change their current living arrangements.

H3: Support for the elderly significantly influences the elderly living arrangements, preferred living arrangements, and intentions to change their current living arrangements.

3-1 Family reciprocal care significantly influences elderly living arrangements, preferred living arrangements, and intentions to change their current living arrangements.

3-1-1 Family reciprocal care significantly influences elderly living arrangements.

3-1-2 Family reciprocal care significantly influences preferred living arrangements of the elderly.

3-1-3 Family reciprocal care significantly influences elderly intentions to change their current living arrangements.

3-2 The propinquity of the elderly environmental support significantly influences elderly living arrangements, preferred living arrangements, and intentions to change their current living arrangements.

3-2-1 The propinquity of the elderly environmental support significantly influences elderly living arrangements.

3-2-2 The propinquity of the elderly environmental support significantly influences preferred living arrangements of the elderly.

3-2-3 The propinquity of the elderly environmental support significantly influences elderly intentions to change their current living arrangements.

H4: Elderly living arrangements, preferred living arrangements, and their intentions to change living arrangements are significantly associated with each other.

Instrument

The research instrument developed for data gathering and testing of all hypotheses was designed as an interview questionnaire to be utilized in personal interviews with the elderly.

Elderly Individual Characteristics

Individual characteristics of the elderly are age, gender, marital status, education, housing ownership, financial self-support, health status, and the characteristics of adult children that included the number of children, number of sons and marital status.

Of these, age, education, health status of the elderly, number of children, and number of sons were treated as continuous variables. Education of the elderly referred to how many years they were in school. The health status of the elderly was measured by the number of limitations in the activities of daily living (ADL) and the instrumental activities of daily living (IADL). Six ADLs included: bathing or showering, dressing, eating, transferring (getting in or out of a chair or bed), walking and using/getting to a toilet. Nine IADLs included: meal preparation, shopping for personal items, managing money (budget, taxes, paying bills), using the telephone, laundry (including ironing and sewing), household cleaning, caring for self and taking medicine during minor illness, moving around outside, and going places beyond walking distance. The number of living children was measured to determine the availability of the caregivers. The effect of the number of sons on the elderly living arrangements was measured since the Korean family has followed the patriarchal system (Eu, 1992).

Gender was recorded as male or female. Marital status was recorded as married or unmarried.

Economic status was measured in two ways. The first involved ownership of the dwelling based on Eu's (1992) arguments, whether or not they own their dwelling. The second measure involved financial self-support. Elderly participants were asked the question, "Are you receiving financial support for living from your children?" It is

important to investigate elderly self-support because the needs of each individual elderly and allocation of their resources differ according to their current capabilities.

The marital status of adult children was assessed by asking the elderly whether they have an unmarried child.

<center>The Attitudes toward Social Norms, Privacy and Independence</center>

Four questions were developed to measure the attitudes toward social norms, which include family obligation and age segregation, privacy and independence. The question regarding family obligation was developed on the basis of the statement used in the study of Brackbill and Kitch (1991): "I think that an adult child should be responsible for the care of her/his mother or father when they become too old to care for themselves." The question about age segregation was developed on the basis of the statement used in the study of Wister (1985): "The children are apt to be so different when they grow up that it is hard to share day-to-day living with them in the same household." The questions asking for attitudes toward privacy and independence were developed also on the basis of Wister's (1985) statement: "I need to do what I want without outside interference (Privacy)"; "I would like to live on my own until I cannot manage it any longer (Independence)." All responses to the attitude items ranged from strongly disagree (1) to strongly agree (9) using a nine-point scale. They were coded as (1) disagree (point 1-3), (2) neutral (point 4-6), and (3) agree (point 7-9) for analysis.

Family Support: Intergenerational Reciprocal Care

Intergenerational reciprocal care was divided in two categories: help received (care from the adult child having most contact with elderly), and help given (care from elderly to an adult child having most contact). Based on the studies of Chang (1989), Hur (1996), Kelman, McCulloch (1990), Rhee (1996), Thomas and Tanaka (1994), and Whitbeck, Hoyt and Huck (1994), the following ten types of aids comprising intergenerational reciprocal care were developed: advising important decisions, money management, living expenses/pocket money, assistance when ill, cleaning and laundering, looking after the house (and baby sitting for help given), meal preparation, making beds, transportation, and shopping. Scoring of each item ranges from 1, indicating no aid, to 5 indicating aid always. Intergenerational exchanges were calculated by subtracting the total score of help given from the total score of help received for each elderly. The absolute values of intergenerational exchanges were used to measure the degree of exchange balance.

Environmental Support Networks

Based on the studies of Byun (1994), Hur (1996), and Park (1994), 13 categories including 16 items regarding environmental support networks were developed: senior centers, medical services (hospital/herb clinic, pharmacy), sports/health facilities, religious facilities, banking facilities, purchasing facilities (arcade areas,[2] traditional

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[2] In Korea, an arcade area means the area that consists of various markets such as grocery store, clothing store, and shopping center.

markets[3]), green tract of land, entertainment facilities, restaurants, sanitary facilities (hair salon, public bath/sauna), public offices, and public transportation systems.

The degree of propinquity was measured by a five-point scale: don't know or no facility (1), 15-30 minutes by transportation (2), within 15 minutes by transportation (3), 15-30 minutes by walking (4), and within 15 minutes by walking (5). When the elderly were using the facility only in another area, the response was referred to as "no facility." In addition, frequency of use of each facility was investigated. The elderly were asked using a five-point scale how often they utilized those facilities: no use (1), once a year or less (2), several times a year (3), once a month or more (4), and once a week or more (5).

<u>Current Living Arrangement, Preferred Living Arrangement,</u>

<u>and Intentions to Change Current Living Arrangement</u>

Current living arrangement was categorized as: living with children (0), and living alone or with a spouse only (1). Preferred living arrangements of the elderly was assessed by an open ended question developed from the studies of Beland (1987) and Hur (1996): "Given your current circumstances, what living arrangement would you prefer?" After the data collection, all the responses were coded as living with children (0), and living alone or with spouse only (1). Future intention to change the current living arrangement was measured also by the open-ended question as follows: "Do you have a plan to live with your children in the near future?" (The question for the elderly living alone); "Do

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[3] Traditional markets in Korea mean a series of stores dealing with traditional apparels, ornaments, furniture, or handicrafts.

you have a plan to live alone in the near future?" (The question for the elderly living with an adult child).

The questionnaire for interviewing, although presented here in English, was translated into Korean to make it understandable to the interviewers. The translated questionnaire was reviewed by two Koreans studying mathematics and business and revised for greater lucidity prior to use in the interviews.

Pilot Test

Interviews with ten elderly in Seoul, the capital of Korea, were performed to examine the accuracy and appropriateness of the instrument. Based on the results of the pilot test, the instrument was corrected and prepared for use in the study.

Several items were added to exclude inappropriate subjects for the study before beginning the full interview. Since this study was for the elderly aged 65 years or older having at least one child living in Korea, the birth dates and whether they have a living child in Korea were added. The type of living arrangement of the elderly at the point of the interview was also asked because this study included only the elderly living with children, and living alone or living with spouse only. Since the items about family reciprocal care asked about help for the last three months between generations, the elderly were asked how long they have lived with the current living arrangement.

Data Collection

Interviews were performed in Seoul, the capital of Korea, from the first to the end of June in 1999. The study population was Korean elderly aged 65 years or over having

at least one living child, and living alone/with spouse only, or living with their children. The elderly whose spouse participated in this study were excluded from the interview since the answers might have been similar in several items such as housing ownership, self-support, the characteristics of children, and intergenerational reciprocal care.

Interviewers consisted of four college students who are studying in various home economics areas. The researcher trained the interviewers about the voluntary status of the participants, and proper manners toward the elderly people who participated in or who refused the interview. The researcher explained the contents of the study and each interview item for the interviewers. For the sensitive questions such as education and number of sons, the researcher had the interviewers ask the elderly in these ways: for the education item, "did you graduate from elementary school?" If they answered yes, "what is your final school level?"; for the number of sons, "how many sons do you have? How many daughters do you have?" To avoid inconsistency by the interviewers, the researcher gave the interviewers samples of each question and instructed them to follow the question samples.

The study sample was taken with stratified sampling based on housing ownership and the elderly population of 65 years and older. In Korea, ownership of housing is an important criterion to evaluate socio-economic status due to the excessive cost of housing. Data were collected in five areas in Seoul: A, B, C, D, and E. A and B are high housing ownership areas, C and D are medium, and E is a low housing ownership area. Official documents were sent to the representatives of the areas before collecting the data. The researcher asked them to announce about the interviews of elderly and to gather them in one place. After discussion with the representative of each area regarding the

Table 4. The Statistics of the Areas and Number of Responses Collected

Areas	Population	Number of households	Ratio of elderly aged 65 and over (%)	Housing ownership (%)	Responses collected
A	17,882	4,893	4.98	49.54 (high)	89
B	13,647	4,056	4.62	37.97 (medium)	67
C	12,014	4,007	4.87	28.10 (low)	114
D	13,462	3,814	8.03	68.49 (high)	46
E	7,554	1,388	7.21	38.20 (medium)	51
Total					357

Source: National Statistical Office (1995)

appropriate time and a convenient place to gather the elderly, the interviews were performed at a specific time in a specific place.

The statistics of each area and number of responses collected are in Table 4. A total of 357 elderly consisting of 166 elderly living alone or with spouse only, and 191 elderly living with their children participated in the study.

Analytical Procedures

For data analysis, descriptive statistics, logistic regression and cross-tabulated analysis were performed with the SAS (Statistical Analysis System) program.

Descriptive statistics were used to summarize the data. Frequency of categorical independent variables and dependent variables, and mean and standard deviation for continuous independent variables were applied to describe the characteristics of the cooperating subjects. The relationships between variables were assessed using Pearson moment correlation coefficients.

Logistic regression, which is an alternative regression analysis for a categorical (especially binary) dependent variable, was performed to test the effect of the independent variables (elderly individual characteristics, attitudes, and support systems) on the dependent variables (elderly living arrangements, preferred living arrangements of the elderly, and intentions to change their current living arrangements). Because the dependent variables, which are elderly living arrangements, in this study were categorized as living alone /with spouse only or living with their children, binary procedures suggested by Hosmer and Lemeshow (1989) for categorical dependent variables were followed. From the several model selection methods, the researcher chose a stepwise logistic regression used for effective prediction. A stepwise logistic regression combines backward elimination and forward selection methods to add variables to the model or remove variables from the model as they meet or fail to meet a specified significance level, set at 0.05 in this study.

Cross-tabulated data analysis, using chi-square and odd-ratio, were applied to investigate the relationships among the living arrangements, preferred living arrangements, and elderly intentions to change their living arrangements in the near future. The conditional associations between two variables controlling the other variable were analyzed to see the three-way associations as well as two-way associations.

Limitations of the Study

There are four limitations that must be considered if one attempts to generalize from the results of this study. First, elderly subjects were sampled only from Seoul, the largest city and capital of Korea. A study dealing with the elderly from the other areas in

Korea may have different results from this study due to the unique geographical characteristics of Seoul, in which all administrations and businesses are centralized. Second, this study investigated only the elderly having at least one living child, and living alone, living with spouse only, or living with their adult child. Other possible living arrangements such as elderly living with their relatives or non-relatives are excluded from this study. But according to Rhee et al. (1994), an elderly living arrangement other than living alone, living with spouse only, and living with children in Korea accounted for only 5.2% of the elderly population. This small percentage can be considered as not representative of living arrangements among Korean elderly. Since this study dealt with intergenerational reciprocal care, the elderly living in institutions and having no living child were also excluded. Third, due to cross-sectional research characteristics, actual decision making processes regarding elderly living arrangements and their transitions, which are researchable in a longitudinal study, were not investigated in this study. Fourth, this study investigated the separate effects of each independent variable group, meaning elderly characteristics, attitudes, or support networks on the living arrangements of Korean elderly. Therefore, the results did not reveal how the variables increase or decrease the effects of other variables on the elderly living arrangements in Korea.

The results of this study are generalizable for Korean elderly who are living in Seoul, having at least one living child, and living alone, with spouse only, or with their children in a private home during the research period.

CHAPTER IV

ELDERLY LIVING ARRANGEMENTS IN KOREA:

ELDERLY INDIVIDUAL CHARACTERISTICS

MANUSCRIPT FOR PUBLICATION

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ELDERLY LIVING ARRANGEMENTS IN KOREA:

ELDERLY INDIVIDUAL CHARACTERISTICS

Abstract

The purpose of this study was to examine the effects of Korean elderly individual characteristics on their living arrangements. Interviews with the elderly aged 65 years or over were conducted in Seoul, the capital of Korea. A total of 357 elderly consisting of 166 elderly living alone or with spouse only and 191 elderly living with their children participated in the study. Data were analyzed by a stepwise logistic regression performed with the SAS (Statistical Analysis System) program.

Elderly living independently were influenced by the existence of the spouse, higher education level, ability for self-support, good health, and having no unmarried child. In preferred living arrangements, the young-old, highly educated, and self-supporting elderly preferred to live alone. The elderly in Korea consider their marital status, the ability for self-support, and the marital status of adult children as important determinants to change their living arrangements in the near future. The elderly demographic status such as age, gender, number of children, and number of sons were not effective in predicting elderly living arrangements in Korea. Instead, the ability for self-support was entered as an important determinant of all dependent variables, which were living arrangements, preferred living arrangements, and future living arrangements.

Introduction

The elderly experience living arrangement transitions as their socio-demographic status changes through the life events of aging such as retirement, income loss, health decline, and the death of a spouse. Most of these decrease the aging individual's ability to cope with their current living arrangements. In Korea, the coresidence of the elderly and their adult children has been the typical family living arrangement even after the children get married. The eldest son especially, and older parents, have been expected to depend upon and support each other. The traditional extended family still remains the most common living arrangement[4] for elderly in contemporary Korea.

However, as Korean society is industrialized and urbanized, the traditional extended family system and family centered life values are changing and the nuclear family is emerging as the main family system for the elderly in Korea. Therefore, Korean elderly people are looking for alternative living arrangements or environmental settings even though they have problems living without family support given their economic, physical and psychological status. Historically, the social welfare system in Korea has not covered the majority of elderly population expecting families to care for their elderly parents. Most of the Korean elderly who are currently 65 years old and over are not benefiting from the national pension scheme even though the government has extended its compulsory coverage since the early 1990s. In addition, the public still attaches a

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[4] Korean Elderly Living Arrangements (Rhee, et al, 1994)

       Elderly living alone: 11.9%
       Elderly living with spouses only: 29.1%
       Elderly living with their children: 53.8%
       Elderly living with others: 5.2%

negative view to alternative environmental settings for the elderly such as independent living facilities or nursing homes. Several nice facilities are affordable only for the rich elderly. Therefore, there are significant conflicts occurring in the decision making process of the Korean elderly about their living arrangements.

The purpose of this study was to examine the effect of Korean elderly individual characteristics on living arrangements, and to analyze whether the results were consistent with a series of research and theories arising from studies of the elderly in the West.

The following are the research questions for this study:

1. Do the elderly individual characteristics (age, gender, marital status, education, housing ownership, financial self-support, health, number of children, number of sons, and marital status of adult children) significantly influence elderly living arrangements?

2. Do the elderly individual characteristics (age, gender, marital status, education, housing ownership, financial self-support, health, number of children, number of sons, and marital status of adult children) significantly influence preferred living arrangements of the elderly?

3. Do the elderly individual characteristics (age, gender, marital status, education, housing ownership, financial self-support, health, number of children, number of sons, and marital status of adult children) significantly influence elderly intentions to change their current living arrangements?

Literature Review

The majority of researchers that studied elderly living arrangements mentioned elderly individual characteristics as determinants of elderly living arrangements. Even though there has been an argument regarding which elderly characteristics in the study of living arrangements are push factors[5], many studies, as shown below, have indicated there is a significant effect of elderly characteristics on their living arrangements.

Wilmoth (1995) analyzed two conceptual models that have emerged from sociological and gerontological literature to explain the effects of elderly individual characteristics on living arrangements. The first model contained four categories explaining the underlying mechanisms in elderly living arrangements, which included opportunities, resources, needs, and preference factors. The second model included availability, feasibility, and desirability factors. She synthesized these two models, and suggested the fundamental variables that represented components of these two models: family structure, economic resources, health, and demographic characteristics of the elderly individual (Table 5).

Table 5. Fundamental Variables that Influence Elderly Living Arrangements (Wilmoth, 1995)

First Model	Second Model	Fundamental Variables
Opportunities	Availability	Family structure
Resources	Feasibility	Economic resources, health
Needs	Feasibility	Demographic factors (age, gender, marital status)
Preferences	Desirability	Demographic factors (ethnicity, education)

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[5] A push factor is a factor that pushes a population away from a particular area such as pollution, overcrowding, depression, or crime. In this study, elderly characteristics refer to the push factors which push the elderly away from the living arrangements they prefer.

Applying these concepts to the literature review, elderly characteristics were divided into four categories: (1) demographic factors: age, gender, marital status, and education, (2) health status, (3) economic status, and (4) characteristics of adult children, following Wilmoth's (1995) family structure suggestions. Ethnicity factors were excluded because there is only one ethnic group in Korea.

Elderly Demographic Status: Age, Gender, Marital status, and Education

Age

The age of the elderly usually shows their position in the life cycle and the changing dependency relationship between parents and children since the elderly lose their spouse and their functional ability decreases as they age.

Several researchers found a U-shaped relationship between age and living arrangements among the elderly (Kobrin, 1981; Sandefur & Tuma, 1987; Speare & Avery, 1991; Wolf & Pinnelli, 1989). In the study of Kobrin (1981), the elderly lived away from the family through age 75 and after that, they were likely to live with their children. Speare and Avery (1991) also found that coresidence declined with age, but it increased again when the age was over 85 and this trend was much more likely for unmarried persons than married persons. Due to the presence of unmarried children at early stages of older years, the elderly are more likely to live with children. After their children get married, they live alone or with a spouse only. At the last stage, as they lose their own spouse and health declines, the tendency of the elderly to receive help from their children increases sharply and it leads to coresidence of the elderly and adult children.

The results of several Korean studies also showed that the age of the elderly affects their living arrangements. Eu (1992) confirmed a U-shaped pattern in the association of age and elderly living arrangements. Among the unmarried elderly, 33% of them between ages 60-64 were likely to live with children. This percentage was a larger proportion than the coresidence of the elderly ages 65-69. Fifty-five percent of the elderly aged 75 and over were less likely to live without children. In the studies of Byun (1994) and Park (1994), that the older an individual is, the more they will prefer to live with their sons regardless of their current living arrangements was presented.

But Crimmins and Ingegneri (1990) argued that age was not a significant predictor of coresidence once widowhood and disability were controlled. This finding indicates that the age of the elderly is strongly related to their marital status and health.

Gender

Male and female elderly have different patterns of living arrangements related to their marital status and these usually explain the difference in gender-role and life span. In the study of Allen, Goldscheider, and Ciambrone (1999), wives were one third as likely as husbands to select their spouses as caregivers. According to Peek et al. (1997) and Siegal (1993), women at any age are less likely than men to live with a spouse and are more likely to live alone. Several researchers explained that even though unmarried men needed less financial support since they were more likely to have been in the labor force and to have control of economic assets, they had greater difficulty in handling household routines (Berado, 1970; DeVos and Lee, 1988; Eu, 1992).

In association with coresident living arrangements, Lin (1996), and Speare and Avery (1991) found that widowed women were more likely than men to live with children when age and the other factors were controlled within the research procedure. These results reflected the gender differences in economic status, family relationships, and intergenerational roles. At older ages, widows tended to be considerably more integrated into family reciprocal aid and support than were widowers (Soldo, 1981). But in the study of Crimmins and Ingegneri (1990), men were more likely to live with their children after the effects of other socio-demographic characteristics were controlled. They explained that it was the greater likelihood of females being widowed that was the most important factor in their greater numbers of females living with children.

Marital Status

Marital status also indicates a life cycle stage of the elderly as does age, and influences their living arrangements. Peek et al. (1997) found that unmarried elders were more likely to have greater proximity to children than married elders. The marital status also reflects the primary care-giving relationship. In the studies of Chappell (1991) and Day (1985), when the elderly were ill or needed help, they sought their spouse first as a care-giving person. But among the unmarried elderly, their children were named most frequently as the primary caregivers. That is, the elderly do not need to live with their children as long as they have their spouse.

In Korean study, Eu (1992) explained that those elderly people who had a spouse have been more likely to seek privacy and independence from their children and preferred to live independently. She also pointed out the effect of marital history on living

arrangements. Widowed, divorced, or remarried persons were more likely to live alone or with non-relatives than the never married. Despite the availability of relatives with which to live, the widowed and divorced persons were likely to maintain the independent life they would have liked to have during marriage.

Education

While studies about the influence of education on elderly living arrangements have been conducted rarely, there is some evidence of a significant effect of education on living arrangements. According to Wister (1985), education can influence individual values and preferences of particular living arrangements.

Higher levels of education have been associated with greater residential separation from adult children. Even after the effect of income was controlled from the research structure, it has been found that higher education was negatively related to the likelihood of coresidence, suggesting that preference for privacy increased with education (Goldscheider & DaVanzo, 1989).

Education has also influenced living arrangements indirectly as it impacted other factors, such as health and the number of children. Several studies reported more educated parents were less likely to live with their children, indicating that better health and fewer children were associated with higher education (Aquilino, 1990; Crimmins & Ingegneri, 1990; Spitze & Logan, 1990).

Health Status

Health is the primary source for maintenance of physical independence for functioning in daily life, and to fulfill one's expected role in society. If an individual is in a state of illness, the physical, emotional, and socio-economic deprivations are aggravated. The impairment and disability lead to dependency on their children as well as failure in carrying out personal tasks and social roles. In Korea, it would be expected that poor health increases the need for care-giving from children and coresidence of the elderly and their children, since formal care facilities have not developed to meet the needs of the elderly.

The majority of studies supported the idea that there is a strong relationship between living arrangements and health. Declining health and increasing disability of the elderly decreased the likelihood of living alone and increased the likelihood of living with others or of being institutionalized (Angel, 1991; Avery, Speare, & Lawton, 1989; Mutchler & Burr, 1991; Soldo, Sharma & Campbell, 1984). Soldo et al. (1984) and Lawton (1981) reported that a severe disability prohibited living alone regardless of income, preferences, or family resources. Lee and Dwyer (1996) also confirmed the strong effect of elderly poor health on coresidence. The elderly who had activities of daily living (ADL) limitations were most likely to live with their children. Stinner, Byun, and Paita (1990) argued that disability of the elderly might induce family ties and assistance norms even though the elderly people in American society generally prefer privacy norms.

On the other hand, in the study of Jackson, Longino, Zimmerman, and Bradsher (1991), functional health appeared to have a closer relationship with residential mobility

than with changing living arrangements. That is, the elderly were more likely to choose moving into institutions or changing their residential location than to choose living with their children when they experienced declining health. Peek et al. (1997) and Speare, Avery, and Lawton (1991) found no significant relationship between living arrangements and self-assessment of health. But, in the study of Won and Lee (1999), the Korean elderly who lived with their children rated themselves healthier than those who did not. They explained that the Korean elderly living with children felt more secure about receiving care.

<u>Economic Status</u>

It is accepted that sufficient economic resources enable the elderly to maintain independent living arrangements because these resources provide the means to select preferred living environments and services for independent living. In Korea, the elderly generally suffer from economic difficulty due to poor public assistance programs, the high cost of housing, typical extravagant spending on children's weddings and education, and early retirement (Eu, 1992).

In several studies, elderly persons' economic resources were the greatest determinant of their living arrangements (Eu, 1992; Soldo, Wolf, & Agree, 1990; Speare & Avery, 1992). In these studies, elderly were most likely to live with their children if they lacked their own economic resources. Soldo et al. (1990) found that older women with sufficient resources were more likely to live alone despite their disability and the availability of children since economic resources cause them to get necessary assistance such as good medical services and health care.

In considering the measures of resources, income normally has had an effect on the choice to live independently (Kobrin, 1981; Soldo, 1981). Other resources such as net household income of the elderly have been shown to be positively associated with coresidence living arrangements (Tienda & Angel, 1982). In the study about the elderly in Fiji, Korea, Malaysia, and the Philippines, Martin (1989) found that the Korean elderly who owned their home and had the ability for self-support were less likely to live with children. The size of the income was not an effective predictor of living arrangements of the elderly because the needs of each individual elderly person or couple and the allocation of their resources were different according to their current physical, social, and psychological capabilities (Eu, 1992). In this study, accepting Eu's concept of the needs and allocation of the resources, the ownership of the dwelling and financial self-support were selected as measurements of economic status among Korean elderly.

Characteristics of Adult Children

The adult children are an important factor influencing living arrangements of the elderly because the children generally are involved in choosing the caregivers for their older parents, and the states of adult children sometimes influence the lives of older parents. Most research of the elderly living arrangements including characteristics of adult children as factors mentioned the availability of children, their gender, and marital status.

The effect of the presence of children has been evaluated in relation to the number of children available as potential caregivers. The overall number of children has been negatively related to the likelihood of living alone (Avery et al., 1989; Soldo et al., 1990).

However, in the study of Crimmins and Ingegneri (1990), the number of children was not a significant predictor of coresidence once the effect of the marital status of adult children was controlled. But the number of children cannot be ignored as a determinant of elderly living arrangements since their study did not compare the effect on non-coresidential living elderly.

The effect of the gender of the children on their elderly living arrangement was related to culture. The majority of research in the U.S. reported that having a female child increased the chances of receiving support and living with children (Soldo et al., 1990; Stone, Cafferata, & Sangl, 1987). Especially elderly women with only daughters were more likely to live with a child than women with only sons, while women with both sons and daughters had intermediate probabilities of living with a child (Soldo et al., 1990). On the contrary, in Korea, availability of a son has been the strongest determinant of elderly living arrangements. The absence of a son greatly increased the likelihood of living without children even among the elderly who had daughters. This trend indicates the persistence of the patriarchal family system in Korea (Eu, 1992).

The age and marital status of the child were also found to have significant effects on elderly living arrangements. In Korea, having children under the mid-twenties indicates that they are likely to be unmarried and unemployed, and need more assistance from their parents. Also in terms of the Korean educational concept, single people are supposed to live with their parents. The studies in the U.S. also showed that the marital status of adult children play an important role in deciding the elderly living arrangements. Aquilino (1990) reported that having an unmarried child was the strongest predictor of coresidence. Lee and Dwyer (1996) also found that elderly having at least one unmarried

child were more than four times as likely as parents of married children to live with a child. In this study, the number of children, of sons, and marital status were selected as the characteristics of adult children. The age of the children was not entered as a factor because it was considered to be strongly related with marital status of children in Korea.

In summary, the effects of elderly characteristics on their living arrangements are thoroughly reviewed from the literature. Previous research in Korea and the U.S. shows that the elderly who are younger, married, more educated, healthy, financially self-supportive, have their own house and fewer children but not having unmarried children are likely to live alone or with a spouse only. Having fewer sons affected the living alone among the Korean elderly. Regarding gender, results were inconsistent depending on the research methods used and the chosen study sample. On the other hand, several researchers pointed out that the significant relationships among the elderly characteristics could effect different results when one of the related factors was controlled. Since a more effective statistical method was needed to investigate the explicit factors that explain Korean elderly living arrangements, a stepwise logistic regression was conducted in this study to add variables to the model or remove variables from the model as they meet or fail to meet a specified significance level.

Methodology

Instrument and Coding

Ten independent variables were selected as elderly individual characteristics which affect elderly living arrangements: age, gender, marital status, education, housing ownership, financial self-support, health status, number of children, number of sons, and marital status of adult children.

Each variable was coded as follows: age (years old), gender ([1] female, [2] male), marital status ([1] unmarried, [2] married), education (how many years they were in school), housing ownership ([1] no, [2] yes), financial self-support ([1] no, [2] yes), health status (number of limitations in the six ADLs [Activities of Daily Living]: bathing or showering, dressing, eating, transferring [getting in or out of a chair or bed], walking and using/getting to a toilet, and in the nine IADLs [Instrumental Activities of Daily Living]: meal preparation, shopping for personal items, managing money, using the telephone, laundry, household cleaning, caring for self and taking medicine during minor illness, moving around outside, and going places beyond walking distance), number of children, number of sons and marital status of children ([1] no unmarried child, [2] having an unmarried child).

Current living arrangement and preferred living arrangements were categorized as: living with children (0), and living alone or with a spouse only (1). Future intentions to change the current living arrangement were coded as Yes (1) or No (0). The questions were as follows: "Do you have a plan to live with your children in the future?" (the question for the elderly living alone); "Do you have a plan to live alone in the future?" (the question for the elderly living with an adult child).

Data Collection

Interviews were performed in Seoul, the capital of Korea. The study population was Korean elderly aged 65 years or over having at least one living child, and living alone, with spouse only, or living with their children in Korea.

Stratified sampling determined the study sample, based on housing ownership and the ratio of the elderly population of 65 years and older. In Korea, ownership of housing is an important criterion to evaluate socio-economic status due to the excessive cost of housing. Five areas were chosen for data collection. Two areas represented high housing ownership, another two areas represented medium, and the other area had low housing ownership in Seoul, Korea. All five areas were inhabited by a high percentage of elderly population in Seoul. Four-trained college students and the researcher interviewed the elderly at a specific place of each area such as senior center or area office.[6] A total of 357 elderly consisting of 166 elderly living alone or with a spouse only and 191 elderly living with their children participated in this study.

Data Analysis

Descriptive statistics were used to summarize the data. Frequencies and percentages for categorical variables, and means and standard deviations for continuous variables were used to describe the elderly characteristics. The relationships between variables in this study were presented by correlation coefficients.

Stepwise logistic regression, which is an alternative regression analysis for categorical (especially binary) dependent variables, was performed to test the influence of

the elderly individual characteristics on the dependent variables (elderly living arrangements, preferred living arrangements of the elderly, and intentions to change their current living arrangements).

Results

Descriptive Statistics of the Sample

General Characteristics of the Elderly

The elderly demographic, economic and health status and the characteristics of adult children are reported based on descriptive analysis (Table 6). While among the Korean elderly population generally, 39.5% were 65-69 years old and 28.9% were 70-74 years old (National Statistical Office, 1995), the sample in this study included the older aged elderly. The mean age of the elderly was 75.09 years (SD=7.28 years). Almost 30% of the elderly were 65-69 years old, and three other categories (70-74, 75-79, and 80-84) having about 20% each. The percentage of female elderly (66.9%) was twice as much as that of male elderly (33.1%). This was similar to the gender ratio of the Korean elderly population in general, which is described as 58.5 male elderly per 100 female elderly (NSO, 1995). There were a few more unmarried elderly (56.3%) than married elderly (43.7%) in this study, similar in proportion to Korean elderly marital status generally across the population (married elderly: 47.6%, unmarried elderly: 52.4%). Almost 70% of the elderly did not complete grade six of elementary school, and approximately 10% of the elderly received some college education. The elderly in this study had a higher

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[6] The area office in Korea takes charge of managing all tasks for the residents such as birth, death, moving in and out, social welfare, or various community events.

Table 6. General Characteristics of the Elderly (N=357)

Variables	Frequencies (%)
Age (years old)	
65-69	103 (28.9)
70-74	69 (19.3)
75-79	80 (22.4)
80-84	62 (17.4)
85+	43 (12.0)
	Mean=75.09 SD=7.28*
Gender	
Female	239 (66.9)
Male	118 (33.1)
Marital status	
Unmarried	201 (56.3)
Married	156 (43.7)
Education	
None	126 (35.3)
Elementary	114 (31.9)
Middle school	23 (6.4)
High school	57 (16.0)
College+	37 (10.4)
	Mean=5.91 SD=5.41*
Housing ownership	
Not own	183 (51.3)
Own	174 (48.7)
Financial self support	
No	197 (55.2)
Yes	160 (44.8)
Health status**	
0	202 (56.6)
1-2	73 (20.4)
3-5	45 (12.6)
6-8	24 (6.7)
9+	13 (3.6)
	Mean=1.61 SD=2.64
Number of children	
1-2	75 (21.0)
3-4	152 (42.6)
5-6	96 (26.9)

7+	34 (9.5)
	Mean=4.04 SD=1.86
Number of sons	
0	39 (10.9)
1	88 (24.6)
2	114 (31.9)
3	68 (19.0)
4+	48 (13.4)
	Mean=2.06 SD=1.38
Having unmarried child	
No	304 (85.2)
Yes	53 (14.8)

* Statistic based on actual number then categorized for both age and education
** Health status indicates number of limitations in ADLs and IADLs.

education level compared with the education level of the Korean elderly generally, of whom 42.9% have not completed grade six and 5.2% had some college education (Kim et al., 1999). The higher education level is mainly due to this study's sampling of Seoul residents only.

The economic status of the elderly was nearly evenly distributed by the categories. About half of the elderly had their own housing (48.7%), and another half of them (51.3%) did not own their housing. More than half of the elderly (55.2%) were living with financial assistance from their children. The elderly in the study were relatively healthy. More than half of the elderly did not have any difficulty in doing ADLs and IADLs (56.6%), and 20% of them had one or two limitations in doing certain activities. The mean of the elderly limitations in doing ADLs and IADLs was 1.61 (SD=2.64). The elderly in this study had about four children (SD=1.86) and about two sons (SD=1.38) on the average. Only 14.8% of the elderly had at least one unmarried child compared to 85.2% of the elderly who did not have an unmarried child.

<u>Relationships among the Variables</u>

Table 7 shows correlation coefficients to explain the degree of the relationships among the variables in the study.

<u>Independent variables.</u> Age was significantly related to the independent variables except gender ($\underline{r}$ = -.01, N.S.). Older aged elderly were negatively associated with being married ($\underline{r}$ = -.33, $\underline{p}$ < .001), higher education ($\underline{r}$ = -.48, $\underline{p}$ < .001), housing ownership ($\underline{r}$ = -.42, $\underline{p}$ < .001), self support ($\underline{r}$ = -.33, $\underline{p}$ < .001), and having an unmarried child ($\underline{r}$ = -.25, $\underline{p}$ < .001), but positively associated with low health status ($\underline{r}$ = .42, $\underline{p}$ < .001), more children ($\underline{r}$ = .16, $\underline{p}$ < .01), and more sons ($\underline{r}$=.12, $\underline{p}$ < .05). The male elderly, the married status, higher education, housing ownership, self-support, and higher health status had significant associations. Especially marital status, years of education, and housing ownership were strongly associated with each other showing the relationship to be more than 45% (marital status and education: $\underline{r}$ = .49, $\underline{p}$ < .001, marital status and housing ownership: $\underline{r}$ = .45, $\underline{p}$ < .001, and education and housing ownership: $\underline{r}$ = .52, $\underline{p}$ < .001). The number of children and number of sons were negatively associated with higher socio-economic status such as higher education ($\underline{r}$ = -.25, $\underline{p}$ < .001; $\underline{r}$ = -.22, $\underline{p}$ < .001), housing ownership ($\underline{r}$ = -.14, $\underline{p}$ < .01; $\underline{r}$ = -.10, $\underline{p}$ = .056), and self-support ($\underline{r}$ = -.26, $\underline{p}$ < .001; $\underline{r}$ = -.17, $\underline{p}$ < .01). The number of children was strongly related with the number of sons ($\underline{r}$ = .67, $\underline{p}$ < .001). On the other hand, having an unmarried child was significantly related to higher socio-economic status such as education ($\underline{r}$ = .14, $\underline{p}$ < .01), housing ownership ($\underline{r}$ = .13, $\underline{p}$ < .05), self-support ($\underline{r}$ = .11, $\underline{p}$ < .05), and better health status ($\underline{r}$ = -.12, $\underline{p}$ < .05). That is, having an unmarried child means an earlier stage of the elderly that represents

Table 7. Correlation Coefficients Among the Variables (elderly characteristics and living arrangements) (N=357)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1.00												
2	-.01	1.00											
3	-.33***	.43***	1.00										
4	-.48***	.36***	.49***	1.00									
5	-.42***	.11*	.45***	.52***	1.00								
6	-.33***	.17**	.30***	.37***	.39***	1.00							
7	.42***	-.15**	-.21***	-.32***	-.32***	-.18***	1.00						
8	.16**	.03	-.08	-.25***	-.14**	-.26***	.04	1.00					
9	.12*	-.02	-.06	-.22***	-.10	-.17**	.04	.67***	1.00				
10	-.25***	.06	.09	.14**	.13*	.11*	-.12*	.03	.04	1.00			
11	-.29***	.24***	.32***	.36***	.34***	.41***	-.30***	-.15**	-.10	-.18***	1.00		
12	-.30***	.13*	.29***	.36***	.29***	.37***	-.19***	-.18***	-.17**	.03	.46***	1.00	
13	-.13*	.17**	.20***	.20***	.19***	.19***	-.11*	-.01	-.02	.21***	.04	.19***	1.00

1. Age, 2. Gender, 3. Marital Status, 4. Education, 5. Housing Ownership, 6. Self Support, 7. Health Status, 8. Number of Children, 9. Number of Sons, 10. Unmarried Child, 11. Current Living Arrangements, 12. Preferred Living Arrangements, 13. Future Intentions to change Living Arrangements

*$p < .05$ **$p < .01$ ***$p < .001$

being relatively modernized, living independently, and having good health. According to the relationship among the independent variables, the number of children and the number sons, and the years of education and housing ownership had strong relationships greater than 50%. The age variable had significant relationships with most of the other independent variables. Therefore, in this study, a stepwise logistic regression was performed to reveal the appropriate model which explains the effects of the variables while adding or removing other variables.

Independent variables and dependent variables. Most of the relationships among the independent variables and dependent variables were significantly associated. The characteristics of elderly living alone or with spouse only, were mostly associated with self-support ($r = .41$, $p < .001$), and then correlated with years of education ($r = .36$, $p < .001$), housing ownership ($r = .34$, $p < .001$), and the married status ($r = .32$, $p < .001$) in sequence. In addition, they were significantly correlated with good health ($r = -.30$, $p < .001$), the young-old ($r = -.29$, $p < .001$), the male elderly ($r = .24$, $p < .001$), not having an unmarried child ($r = -.18$, $p < .001$), and fewer number of children ($r = -.15$, $p < .01$). The elderly who preferred to live alone had also the largest relationship with self-support ($r = .37$, $p < .001$), and then years of education ($r = .36$, $p < .001$), the young-old ($r = -.30$, $p < .001$), the married status ($r = .29$, $p < .001$) and housing ownership ($r = .29$, $p < .001$) in order. In addition, elderly preferring to live alone showed significant relationships with good health ($r = -.19$, $p < .001$), fewer number of children ($r = -.18$, $p < .001$), fewer number of sons ($r = -.17$, $p < .01$), and the male elderly ($r = .13$, $p < .05$). On the other hand, the elderly who would change their living arrangements in the near future had the

strongest relationship with having an unmarried child (r = .21, p < .001). That is, the marriage of their children strongly affects elderly future living arrangements. They were also positively associated with being married (r = .20, p < .001), years of education (r = .20, p < .001), housing ownership (r = .19, p < .001), self-support (r = .19, p < .001), and being male (r = .17, p < .01). But the elderly who were older (r = -.13, p < .05) and were experiencing reduced health (r = -.11, p < .05) were not likely to change their living arrangements.

Hypotheses Tests

A stepwise logistic regression was performed to reveal the effects of elderly characteristics on the elderly living arrangements. To conveniently label the equations, the variable were labeled as follows; X_1 (age), X_2 (gender), X_3 (marital status), X_4 (education), X_5 (housing ownership), X_6 (self-support), X_7 (health), X_8 (number of children), X_9 (number of sons), and X_{10} (marital status of adult children).

The results are shown in Table 8.

H_1: Elderly individual characteristics (age, gender, marital status, education, housing ownership, financial self-support, health, number of children, number of sons, and marital status of adult children) significantly influence the elderly living arrangements.

Table 8. Logistic Regression of Living Arrangements on the Elderly Characteristics

Living Arrangements	Variables	DF	Parameter Estimates	Standard Error	χ^2	OR
Current living arrangements	Intercept	1	-3.38	0.54	38.78***	.
	Marital status	1	0.74	0.30	6.24*	2.10
	Education	1	0.08	0.03	6.88**	1.08
	Self support	1	1.63	0.28	33.39***	5.13
	Health status	1	-0.23	0.06	13.32***	0.80
	Unmarried child	1	-2.28	0.42	29.47***	0.10
Preferred living arrangements	Intercept	1	0.72	1.54	0.22	.
	Age	1	-0.04	0.02	3.90*	0.96
	Education	1	0.10	0.03	13.78***	1.11
	Self support	1	1.13	0.25	20.30***	3.10
Future intentions to change living arrangements	Intercept	1	-3.59	0.55	41.82***	.
	Marital status	1	0.77	0.28	7.67**	2.16
	Self support	1	0.65	0.28	5.54*	1.92
	Unmarried child	1	1.07	0.32	11.01***	2.93

*$p < .05$ **$p < .01$ ***$p < .001$

By the stepwise procedure, self-support was entered as a variable for the first time, and followed by the variables, having unmarried child, education, health status, and marital status in that order (Appendix A-1). The age variable became insignificant after the health variable was added to the model. This result was consistent with the study of Crimmins and Ingegneri (1990) who found that age of the elderly was not a significant variable in co-residence once disability is controlled. In addition, the chi-square score of the gender variable was decreased after marital status was entered into the model. Crimmins and Ingegneri (1990) explained that it was the greater likelihood of females being widowed rather than gender itself that influences elderly co-residence. Housing ownership that had a strong correlation with education was removed from the model after

education and health were entered as variables. On the other hand, the number of children and number of sons were removed from the model thus maintaining a low chi-square score during the procedure.

The final model is as follows:

$$X_{\text{current living arrangements}} = -3.38 + 0.74X_3 + 0.08X_4 + 1.63X_6 - 0.23X_7 - 2.28X_{10}$$

The hypothesis that elderly living arrangements are significantly affected by elderly individual characteristics was supported by findings related to marital status ($\chi^2 = 6.24$, $\underline{p} < .05$), education ($\chi^2 = 6.88$, $\underline{p} < .01$), self-support ($\chi^2 = 33.39$, $\underline{p} < .001$), health status ($\chi^2 = 13.32$, $\underline{p} < .001$), and an unmarried child ($\chi^2 = 29.47$, $\underline{p} < .001$). That is, the elderly who lived alone or with a spouse only were influenced in their living arrangements by the existence of the spouse, higher education level, ability for self-support, good health, or having no unmarried child. The statistical relationship between elderly living arrangements and marital status is explained by Eu (1992) that the elderly having a spouse were more likely to seek privacy and independence from their children. Education was entered as a variable even after the self-support variable was controlled as in the study of Goldscheider and DaVanzo (1989) who said that education was a significant factor without the income factor in the research structure. Self-supporting elderly were 5.13 times more likely to live alone than to live with their children ($\underline{OR} = 5.13$). As Martin (1989) stated, Korean elderly having the ability of self-support were less likely to live with children. As many researchers have pointed out, the health variable is one of the important factors in the study of elderly living arrangements (Angel, 1991; Avery et al., 1989; Lee & Dwyer, 1996; Mutchler & Burr, 1991; Soldo et al., 1984); poor health increased the coresidence of the elderly and their children. Having an

unmarried child decreased ten times of the odds of living alone ($\underline{OR}$ = 0.10). This finding was consistent with the studies of Aquilino (1990), and Lee and Dwyer (1996) in which researchers reported that children's marital status was the strongest predictor of coresidence.

H_2: Elderly individual characteristics (age, gender, marital status, education, housing ownership, financial self-support, health, number of children, number of sons, and marital status of adult children) significantly influence preferred living arrangements of the elderly.

In the stepwise procedure, self-support was controlled for the first time, and then education was entered as a variable. After the age variable was entered, the stepwise analysis procedure ceased (Appendix A-2). In the stepwise procedure, after self-support was entered into the model, the gender and number of children became insignificant, and the chi-square score of health and number of sons were strongly reduced. After education was controlled, marital status, housing ownership, health, and number of sons showed an insignificant chi-square score. That is, in analyzing preferred living arrangements, whether the elderly had the ability for self-support or had higher education was more important than their demographic status including gender, marital status, number of children, and number of sons. As long as the elderly were financially self-supportive or highly educated, poor health or not having their own housing was not an important determinant for trying to live alone since they could appropriately allot their resources for their needs.

The final model is as follows:

$$X_{\text{preferred living arrangements}} = 0.72 - 0.04X_1 + 0.10X_4 + 1.13X_6$$

The hypothesis that elderly preferred living arrangements are significantly influenced by elderly individual characteristics was supported by findings related to age ($\chi^2 = 3.90$, $p < .05$), education ($\chi^2 = 13.78$, $p < .001$), and self-support ($\chi^2 = 20.30$, $p < .001$). That is, the younger aged, higher educated or financially self-supporting elderly preferred to live alone or with a spouse only. Especially the self-supporting elderly were 3.10 times more likely to prefer to live alone or with a spouse only than to prefer to live with their children ($OR = 3.10$). Age was entered as a significant variable because the younger elderly are more likely to think about the opportunity and possibility for choosing their own living arrangements. This result was consistent with the studies of Byun (1994) and Park (1994) in which the more aged elderly preferred to live with their children regardless of their current living arrangements.

H₃: Elderly individual characteristics (age, gender, marital status, education, housing ownership, financial self-support, health, number of children, number of sons, and marital status of adult children) significantly influence elderly intentions to change their current living arrangements.

Having an unmarried child was entered as a variable for the first time, and then marital status was added, followed by self-support (Appendix A-3). The chi-square score of age and health reduced after having the variables, an unmarried child added to the model. After marital status was controlled, gender, education and housing ownership became insignificant factors.

The final model including intercept is as follows:

$$X_{\text{future intentions}} = -3.59 + 0.77X_3 + 0.65X_6 + 1.07X_{10}$$

The hypothesis that elderly future intentions to change living arrangements are significantly explained by elderly individual characteristics was supported by findings related to marital status ($\chi^2 = 7.67$, $\underline{p} < .01$), self-support ($\chi^2 = 5.54$, $\underline{p} < .05$), and having an unmarried child ($\chi^2 = 11.01$, $\underline{p} < .001$). The elderly who had a spouse, the ability for self-support, or at least one unmarried child were likely to change their living arrangements in the near future. The elderly having an unmarried child were about three times more likely to change their living arrangements than to maintain them ($\underline{OR} = 2.93$). Self-supporting elderly ($\underline{OR} = 1.92$) were about two times more likely to change their living arrangements from the current living arrangements. This finding indicates that the elderly who plan to change their living arrangements have enough independence such as a spouse, which implies a caregiver and ability for self-support so that they could easily adapt to new environments. The Korean elderly decide their future living arrangements based upon family conditions such as marital status or having an unmarried child as well as the ability for self-support, whereas they decide their preferred living arrangements, being more influenced by their individual competence including age or educational level.

Summary and Implications

The purpose of this study was to examine the effect of Korean elderly individual characteristics on living arrangements. The following are major findings and conclusions:

Elderly living independently are influenced by the conditions of other family members such as the existence of the spouse and having no unmarried child, and socio-

economic status such as higher education level, the ability for self-support, and good health. In preferred living arrangements, the young-old, highly educated, and self-supporting elderly are more likely to live alone. The elderly, who change their living arrangements in the near future, consider their marital status, the ability for self-support, and the marital status of the adult children as important determinants. Korean elderly decide on their future living arrangements more based upon family conditions such as marital status or having an unmarried child, whereas they decide on their preferred living arrangements based on their individual competence including age or educational level.

The elderly demographic status such as age, gender, number of children, and number of sons were removed from the analytic model in the stepwise procedure. That is, Korean society is moving away from the patriarchal family system and the elderly living arrangements are more dependent on their abilities to live independently rather than their demographic status. Instead, the ability for self-support was entered as an important determinant of all dependent variables, which were living arrangements, preferred living arrangements, and future living arrangements. These results imply that it is necessary to provide services to compensate for the lack of elderly socio-economic status so that they could be financially and physically independent. The public assistance based on community care such as home care giving and home-delivered meals would satisfy the broader needs of Korean elderly population.

For further research, the effect of elderly characteristics upon the living arrangements categorized by other characteristics needs to be investigated since this study showed strong relationships among the variables. For example, more categorized groups such as unmarried elderly, female elderly, or the oldest old will present detailed

relationships between elderly characteristics and their living arrangements. In addition, other types of living arrangements that this study did not deal with such as institutionalized elderly or the elderly living in the retirement community should be studied since those elderly groups are increasing across the Korean population.

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Appendix A. Stepwise Procedure in Elderly Individual Characteristics

1. Elderly Living Arrangements

Variables	Intercept (Step 0)	Self-support (Step 1)	Unmarried child (Step 2)	Education (Step 3)	Health (Step 4)	Marital status (Step 5)
Age	30.88***	11.70***	21.79***	7.79**	2.85	2.23
Gender	20.62***	12.84***	15.15***	5.87*	5.10*	2.54
Marital status	37.07***	18.81***	22.81***	7.67**	6.35*	Added
Education	46.24***	21.19***	28.64***	Added	Added	Added
Housing ownership	40.81***	15.62***	20.44***	5.65*	2.50	1.09
Self-support	60.99***	Added	Added	Added	Added	Added
Health	32.16***	22.66***	27.80***	16.09***	Added	Added
Number of children	7.85**	0.81	0.30	0.13	0.06	0.01
Number of sons	3.61	0.42	0.06	0.55	0.48	0.29
Unmarried child	12.08***	23.21***	Added	Added	Added	Added

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

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2. Preferred Living Arrangements

Variables	Intercept (Step 0)	Self-Support (Step 1)	Education (Step 2)	Age (Step 3)
Age	32.39***	14.63***	3.95*	Added
Gender	6.01*	1.98	0.04	0.05
Marital status	29.85***	14.85***	3.59	2.97
Education	46.59***	24.81***	Added	Added
Housing ownership	30.25***	10.49**	1.31	0.60
Self-support	47.79***	Added	Added	Added
Health	12.89***	6.37*	1.36	0.35
Number of children	12.19***	3.58	1.26	1.27
Number of sons	10.12**	4.84*	1.93	1.99
Unmarried child	0.24	0.11	0.83	1.88

*$p < .05$ **$p < .01$ ***$p < .001$

3. Future Intentions to Change Living Arrangements

Variables	Intercept (Step 0)	Unmarried Child (Step 1)	Marital Status (Step 2)	Self-support (Step 3)
Age	6.16*	2.59	0.25	0.01
Gender	9.72**	8.69**	2.48	2.19
Marital status	14.82***	12.77***	Added	Added
Education	14.55***	11.35***	3.47	1.62
Housing ownership	12.65***	9.92**	3.17	1.24
Self-support	13.03***	10.55**	5.63*	Added
Health	4.51*	3.09	1.19	0.65
Number of children	0.05	0.14	0.00	0.34
Number of sons	0.15	0.32	0.08	0.00
Unmarried child	15.77***	Added	Added	Added

*$p < .05$ **$p < .01$ ***$p < .001$

CHAPTER V

ELDERLY LIVING ARRANGEMENTS IN KOREA:

ELDERLY ATTITUDES

ELDERLY LIVING ARRANGEMENTS IN KOREA:

ELDERLY ATTITUDES

Abstract

Interviews with the elderly aged 65 or over were conducted in Seoul, the capital of

Korea. Data were analyzed with a stepwise logistic regression to examine the effect of

attitudes of Korean elderly toward family obligation, age segregation, privacy and

independence in their living arrangements, and with chi-square to investigate the

associations among the elderly living arrangements, preferred living arrangements, and

intentions to change living arrangements.

Elderly attitudes toward independence were the strongest factor in elderly living

arrangements. The favor of family obligation influenced the elderly who were living with

or preferred to live with their children. The agreements with age segregation were

effective for the elderly living alone or with a spouse only. In the analysis of cross

tabulated data among elderly living arrangements, preferred living arrangements and

future intentions, the results showed that the conditional associations controlling one

other variable should be investigated due to the Simpson Paradox in the associations

among three variables. Most of the elderly in this study tried to live based upon their

preferred living arrangements.

Introduction

Kobrin & Goldscheider (1982) and Wister & burch (1989) argued that the attitudes toward social norms and preferences for privacy and independence have played an important role in deciding the living arrangements of the elderly. They also insisted that the recent rise of the proportion of elderly living alone has presented a strong effect of individual attitudes and preferences on living arrangement decisions.

In Korea, the coresidence of the elderly and their adult children has been the typical family living arrangement even after the children get married. The eldest son especially, and older parents, have been expected to depend upon and support each other. As the society is industrialized and urbanized, the traditional extended family system and family centered life values are changing. The nuclear family is emerging as the main family system due to its flexibility and mobility. However, the socio-economic status of the Korean elderly for independent living is still not secured by the social security system. The social welfare scheme in Korea has been limited to the maintenance of the minimum life level assistance for the elderly since the 1960's. Most of the Korean elderly currently aged 65 years and over are not benefiting from the national pension scheme since its coverage was not extended to a broader range of the elderly population. In addition, the public still attaches a negative view to alternative environmental settings for the elderly such as independent living facilities or nursing homes. Several nice facilities are affordable only for the rich elderly. Therefore, the study of the effects of Korean elderly attitudes toward social norms in their living arrangements could be meaningful in order to understand current needs of the elderly regarding their housing status, household composition, and formal services.

On the other hand, Connids (1983) pointed out the difference between the elderly individuals preferred living arrangement and actual commitment. In his study, even though the elderly preferred to live in a facility, it was mainly due to push factors[7] rather than pull factors.[8] On the contrary, choosing to live with their children was influenced by pull factors. In the study about preferred living arrangements among older Latinos, Zsembik (1996) also confirmed the demonstrable variation in preference for coresidence that underlies the observed difference in actual living arrangement outcomes. The associations among the elderly living arrangements, their preferences, and their actual commitments should be investigated to understand their available choices in the given situation.

The purpose of this study was to examine the effect of attitudes of Korean elderly toward family obligation, age segregation, privacy and independence in their living arrangements, and to investigate the associations among the elderly living arrangements, preferred living arrangements, and their intentions to change living arrangements.

The research questions for this study are as follows:

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[7] A push factor is a factor that pushes a population away from a particular area such as pollution, overcrowding, depression, or crime. In this study, elderly characteristics refer to the push factors which push the elderly away from the living arrangements they prefer.

[8] A pull factor is a factor that pulls a population away from a particular area such as opportunities in another area, climate, or better access to goods and services as in cities. In this study, pull factor refers to the elderly attitudes toward social norms, privacy, or independence. The elderly attitudes play a role as factors that pull the elderly away from a particular living arrangement that they do not prefer to continue.

1. Do elderly attitudes toward family obligations, age segregation, personal privacy, and independence significantly influence elderly living arrangements?

2. Do elderly attitudes toward family obligations, age segregation, personal privacy, and independence significantly influence preferred living arrangements of the elderly?

3. Do elderly attitudes toward family obligations, age segregation, personal privacy, and independence significantly influence elderly intentions to change their living arrangements?

4. Are elderly living arrangements, preferred living arrangements, and their intentions to change current living arrangements significantly associated with each other?

Literature Review

The Effects of Elderly Attitudes on Living Arrangements

Focusing on the living arrangements of widows in the U.S. and Israel, Chevan and Korson (1975) defined "family modernization" as the adoption of a set of norms, attitudes and values in a certain society which leads to changes in family structure. They added that their family structures come to resemble one another as different societies and subcultures modernize. However, there has been a controversy as to whether the modernization of the family in western countries was a result of enforced isolation of elderly or elderly seeking individual privacy. Other researchers considered the increase of elderly living alone as the result of a preference for separate living that explains a desire to live apart from their relatives (Abulaban, 1980; Lopata, 1973). The expected separateness of the elderly and age segregation or differentiation were influential social

norms affecting living arrangement decisions (Wister, 1985). That is, rapid social change and the distinct life experiences related with different age groups have affected the desirability of certain living arrangement options.

Several studies reported the relationship between attitudes toward family obligations and coresidence. Brackbill and Kitch (1991) confirmed a strong relationship between elderly perceptions about family obligations and coresidence. In the study of comparison between coresidence and ex-coresidence groups, they found that coresidence groups had more intergenerational obligations and more care for the elderly. Couple of Korean studies also presented the strong relationship of coresidence and elderly attitudes toward family norms. Song (1988) reported that over 50% of the elderly living with their children were thinking that children have a responsibility to take care of their parents, compared to elderly living alone who thought adult children do not have obligations for care-giving if their parents are healthy. In the study of Won and Lee (1999), the family norms were positively related to coresidence, indicating that the elderly who placed greater value on intergenerational obligations were more likely to be living with married children.

On the other hand, Thomas and Wister (1984) have examined the effect of cultural or normative factors on the living arrangements of older previously married women. They noticed that norms involving kinship obligations, achievement orientations and preferences for independence and privacy were important factors that contributed to the differential household behavior of British, French, Jewish, and Italian ethnic groups. Wister and Burch (1989) categorized social norms and personal preferences into four attitude items: privacy/independence preference, expected separateness, age segregation,

and kinship obligation and ties. They also found a significant relationship between each attitude item and the type of living arrangement.

<u>Associations among the Living Arrangements, Preferred Living Arrangements</u>

<u>and Intentions to Change Living Arrangements</u>

According to Rubinsten, Kilbride, and Nagy (1992), in the decision making process of elderly living arrangements, there is the "consciousness of choice" on the basis of socio-demographic characteristics. It is followed by the "knowledge of choice," which is about realistic and practical possibilities in choosing living arrangements, and then finally the elderly think about "the ability to act on available choices." That is, those three components are combined with each other in choosing elderly living arrangements.

Even though Korean elderly generally preferred to live with their children,[9] there was a finding that more elderly preferred to live alone than those elderly actually living alone. In 1994, 41.0% of the Korean elderly were living alone or with a spouse only, and more than half of them (53.8%) were living with one of their children. Compared to the elderly living arrangements, 46.4% of the elderly preferred to live alone or with a spouse

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[9] **Elderly actual living arrangements in Korea (Rhee et al., 1994)**
Living alone or with a spouse only, 41.0%
Living with children. 53.8%
Living with others 5.2%

Elderly residential preferences in Korea (Rhee et al., 1994)
Elderly living alone or with a spouse only, 46.4 %
Elderly living with eldest sons, 34.0 %
Elderly living with one of sons, 8.2 %
Elderly living with daughters, 2.4 %
Elderly living with one of child of best choice, 2.6 %
Elderly living with others, 1.2 %
Don't Know, 5.2 %

only. The total percentage of the elderly who wanted to live with one of their children was 47.2% (Rhee et al., 1994).

In Western studies, Mickus, Stommel, and Given (1997) reported that decisions about coresidence were largely one of need and not preference when the elderly are functionally dependent since coresidence in that situation is likely to hinge both on parental need and the resources of the adult child. In the study of Beland (1987) that investigated living arrangement preferences among the elderly people, the propensity for change in housing status[10] depended on living with others (including children) or not, and the propensity for change in living arrangements depended on being married or not. That is, elderly living alone wanted to change their current housing status and living arrangement. The elderly couple did not have a high propensity for changing their living arrangement but more often expressed a wish and a request for alternate housing status than the married elderly living with other people.

In summary, the effects of elderly attitudes toward various social norms on their living arrangements have been confirmed in the literature. Many researchers in Korea and the U.S. found in their studies that the elderly living with their children showed more positive attitudes toward filial responsibility and negative attitudes toward privacy/independence or age segregation than the elderly living alone. On the other hand, some researchers have pointed out that elderly living arrangements could be different from their preference due to the lack of the ability to act on preferred living arrangements.

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[10] The term "change in housing status" is used differently from "change in living arrangement." Compared to change in living arrangement which means "change in household composition," change in housing status means "change in type of residence." For example, moving from private home to an assisted living facility is an example of change in housing status, and moving from a single elderly household to a coresidence household is a change in living arrangement.

In Korea, there was a finding that more elderly preferred to live alone than those elderly actually living alone.

Methodology

Instrument and Coding

The socio-demographic status of the elderly including age, gender, marital status, education, housing ownership, financial self-support and health status was investigated in order to summarize the general characteristics of the elderly participated in the study.

Based on the studies of Brackbill and Kitch (1991), and Wister (1985), four questions were developed to measure the attitudes toward family obligation, age segregation, privacy and independence. Developed statements were as follows: "I think that an adult child should be responsible for the care of her/his mother or father when they become too old to care for themselves (Family obligation)"; "the children are apt to be so different when they grow up that it is hard to share day-to-day living with them in the same household (Age segregation)"; "I need to do what I want without outside interference (Privacy)"; "I would like to live on my own until I cannot manage it any longer (Independence)." All responses to the attitude items were coded as disagree (1), neutral (2) and agree (3).

Current living arrangement and preferred living arrangements were categorized as: living with children (0), and living alone or with a spouse only (1). Future intentions to change the current living arrangement were coded as Yes (1) or No (0). The questions were as follows: "Do you have a plan to live with your children in the future?" (the

question for the elderly living alone); "Do you have a plan to live alone in the future?" (the question for the elderly living with an adult child).

Data Collection and Analysis

Interviews were performed in Seoul, the capital of Korea. Five areas were chosen for data collection based on housing ownership and the elderly population of 65 years and older. The interviews were limited to the elderly aged 65 years or over having at least one living child, and living alone, with spouse only or living with their children in Korea. A total of 357 elderly consisting of 166 elderly living alone or with spouse only and 191 elderly living with their children participated in the study.

With the SAS (Statistical Analysis System) program, descriptive statistics were used to summarize the data. General characteristics of the elderly were analyzed by frequencies, percentages and chi-square scores. Mean and standard deviation were used to describe the elderly attitudes. Frequencies and percentages were used for the distributions of the elderly living arrangements. The relationships among all variables entered in the study were presented by the Pearson moment correlation coefficients.

Stepwise logistic regression was performed to test the effect of the independent variables (attitudes toward family obligations, age segregation, privacy, and independence) on the dependent variables (elderly living arrangements, preferred living arrangements of the elderly, and intentions to change their current living arrangements). Cross-tabulated data analysis was applied to investigate the relationships among the current living arrangements, preferred living arrangements, and elderly intentions to

change their living arrangements in the near future, using chi-square and odd-ratio in two-way and three-way associations.

Results

Descriptive Statistics of the Sample

General Characteristics of the Elderly

The elderly demographic, economic and health status are reported based on descriptive statistics (Table 9). Almost 30% of the elderly surveyed were 65-69 years old, and three other categories (70-74, 75-79, and 80-84) having about 20% each. The percentage of female elderly (66.9%) was twice that of male elderly (33.1%). There were a few more unmarried elderly (56.3%) than married elderly (43.7%) in this study. Almost 70% of the elderly did not complete grade six of elementary school and approximately 10% of the elderly received some college education. The economic status of the elderly was nearly evenly distributed by the categories. About half of the elderly had their own housing (48.7%), and another half (51.3%) did not own their housing. More than half of the elderly (55.2%) were receiving financial assistance from their children. The elderly in the study were relatively healthy. More than half of the elderly did not have any difficulty in doing ADLs and IADLs (56.6%), and 20% had one or two limitations in doing certain activities.

Table 9 also shows that there were significant differences in elderly socio-demographic status presented by the elderly living arrangements. Compared to the elderly living or preferring to live with children, the elderly living alone or preferring to

Table 9. General Characteristics of the Elderly

| Variables | Living Arrangements | | Preferred Living Arrangements | | Intentions to change | | Total[#] |
| | Coresidence[#] | Living Alone[#] | Coresidence[#] | Living Alone[#] | Yes[#] | No[#] | |
	191 (100.0)	166 (100.0)	166 (100.0)	191 (100.0)	80 (100.0)	277 (100.0)	357 (100.0)
Age (years old)							
65-69	36 (18.9)	67 (40.4)	27 (16.3)	76 (39.8)	28 (35.0)	75 (27.1)	103 (28.9)
70-74	36 (18.9)	33 (19.9)	29 (17.5)	40 (20.9)	21 (26.3)	48 (17.3)	69 (19.3)
75-79	45 (23.6)	35 (21.1)	41 (24.7)	39 (20.4)	14 (17.5)	66 (23.8)	80 (22.4)
80-84	38 (19.9)	24 (14.5)	41 (24.7)	21 (11.0)	12 (15.0)	50 (18.1)	62 (17.4)
85+	36 (18.9)	7 (4.2)	28 (16.9)	15 (7.9)	5 (6.3)	38 (13.7)	43 (12.0)
	$\chi^2 = 31.84^{***}$		$\chi^2 = 33.91^{***}$		$\chi^2 = 8.22$		
Gender							
Female	148 (77.5)	91 (54.8)	122 (73.5)	117 (61.3)	42 (52.5)	197 (71.1)	239 (66.9)
Male	43 (22.5)	75 (45.2)	44 (26.5)	74 (38.7)	38 (47.5)	80 (28.9)	118 (33.1)
	$\chi^2 = 20.62^{***}$		$\chi^2 = 6.01^{*}$		$\chi^2 = 9.73^{**}$		
Marital status							
Unmarried	136 (71.2)	65 (39.2)	119 (71.7)	82 (42.9)	30 (37.5)	171 (61.7)	201 (56.3)
Married	55 (28.8)	101 (60.8)	47 (28.3)	109 (57.1)	50 (62.5)	106 (38.3)	156 (43.7)
	$\chi^2 = 37.08^{***}$		$\chi^2 = 29.85^{***}$		$\chi^2 = 14.82^{***}$		
Education							
None	92 (48.2)	34 (20.5)	80 (48.2)	46 (24.1)	18 (22.5)	108 (39.0)	126 (35.3)
Elementary	62 (32.5)	52 (31.3)	62 (37.4)	52 (27.2)	22 (27.5)	92 (33.2)	114 (31.9)
Middle school	11 (5.8)	12 (7.2)	9 (5.4)	14 (7.3)	8 (10.0)	15 (5.4)	23 (6.4)
High school	16 (8.4)	41 (24.7)	8 (4.8)	49 (25.7)	17 (21.3)	40 (14.4)	57 (16.0)
College+	10 (5.2)	27 (16.3)	7 (4.2)	30 (15.7)	15 (18.8)	22 (7.9)	37 (10.4)
	$\chi^2 = 44.86^{***}$		$\chi^2 = 53.44^{***}$		$\chi^2 = 16.24^{**}$		

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Table 9 (Cont'd). General Characteristics of the Elderly

Housing ownership					
Not own	128 (67.0)	111 (66.9)	27 (33.8)	156 (56.2)	183 (51.3)
Own	63 (33.0)	55 (33.1)	53 (66.3)	121 (43.7)	174 (48.7)
	$\chi^2 = 40.81$***	$\chi^2 = 30.25$***	$\chi^2 = 12.65$***		
Financial self support					
No	142 (74.4)	124 (74.7)	30 (37.5)	167 (60.3)	197 (55.2)
Yes	49 (25.7)	42 (25.3)	50 (62.5)	110 (39.7)	160 (44.8)
	$\chi^2 = 61.00$***	$\chi^2 = 47.79$***	$\chi^2 = 13.04$***		
Health status[##]					
0	88 (46.1)	72 (43.4)	49 (61.3)	153 (55.2)	202 (56.6)
1-2	36 (18.6)	37 (22.3)	21 (26.3)	52 (18.8)	73 (20.4)
3-5	35 (18.3)	36 (21.7)	6 (7.5)	39 (14.1)	45 (12.6)
6-8	20 (10.5)	14 (8.4)	2 (2.5)	22 (7.9)	24 (6.7)
9+	12 (6.3)	7 (4.2)	2 (2.5)	11 (4.0)	13 (3.6)
	$\chi^2 = 35.65$***	$\chi^2 = 32.02$***	$\chi^2 = 7.33$		

\# Frequencies (%)
\#\# The categories of health status indicate the number of limitations in ADLs and IADLs.
*p< .05 **p< .01 ***p< .001

live alone were more likely to be the young-old ($\chi^2 = 31.84$, p < .001; $\chi^2 = 33.91$, p < .001), male elderly ($\chi^2 = 20.62$, p < .001; $\chi^2 = 6.01$, p < .05), married ($\chi^2 = 37.08$, p < .001; $\chi^2 = 29.85$, p < .001), having higher education ($\chi^2 = 44.86$, p < .001; $\chi^2 = 53.44$, p < .001), having their own housing ($\chi^2 = 40.81$, p < .001; $\chi^2 = 30.25$, p < .001), having financial self-support ($\chi^2 = 61.00$, p < .001; $\chi^2 = 47.79$, p < .001), and healthy ($\chi^2 = 35.65$, p < .001; $\chi^2 = 32.02$, p < .001). On the other hand, the elderly who tried to maintain their current living arrangements were more likely to be female ($\chi^2 = 9.73$, p < .01), unmarried ($\chi^2 = 14.82$, p < .001), have lower education ($\chi^2 = 16.24$, p < .01), not have their own housing ($\chi^2 = 12.65$, p < .001) and financial self-support ($\chi^2 = 13.04$, p < .001), compared to the elderly who had intentions to change their living arrangements. Age and health status of the elderly were not significant in deciding future living arrangements.

Descriptive Statistics of the Sample in Attitudes and Living Arrangements

The mean and standard deviation of each independent variable, frequencies and percentages for dependent variables and Pearson moment correlation coefficients among the variables in the study are provided in Table 10.

The elderly were most likely to agree with the family obligation (M=2.48, SD=0.81), followed by privacy (M=2.36, SD=0.79) and independence (M=2.36, SD=0.89). They showed neutral attitudes toward age segregation (M=2.12, SD=0.89). Many Korean elderly had traditional values that the children should take care of their older parents, even though the elderly also did not completely ignore their own privacy and independence.

Table 10. Descriptive Statistics of the Sample in Attitudes and Living Arrangements

N=357

	1	2	3	4	5	6	7
Family obligation (Mean=2.48 SD= 0.81)	1.00						
Age segregation (Mean=2.12 SD= 0.89)	-.15**	1.00					
Privacy (Mean=2.36 SD= 0.79)	-.14*	.15**	1.00				
Independence (Mean=2.36 SD= 0.89)	-.19***	.34***	.27***	1.00			
Living arrangements Coresidence: 191 (53.5) Living alone: 166 (46.5)	-.21***	.28***	.19***	.45***	1.00		
Preferred living arrangements Coresidence: 166 (46.5) Living alone: 191 (53.5)	-.20***	.26***	.17***	.55***	.46***	1.00	
Intentions to change No 277 (77.6) Yes 80 (22.4)	-.01	.11*	.08	.20***	.04	.19***	1.00

1. Family Obligation, 2. Age Segregation, 3. Privacy, 4. Independence, 5. Current Living Arrangements, 6. Preferred Living Arrangements, 7. Intentions to Change Living Arrangements
*p < .05 **p < .01 ***p < .001

In the elderly living arrangements, the elderly living with their children represented a slightly higher percentage (53.5%) than did the elderly living alone or with a spouse only. In relation to the preferred living arrangements, 53.5% of the elderly in the study preferred living alone, and the remaining elderly (46.5%) preferred to live with their children. This finding was consistent with the study of Rhee et al. (1994) in which more Korean elderly preferred to live alone than were actually living alone. About 78% of the elderly would not change their living arrangements in the near future (77.6%).

Based upon the Pearson moment correlation coefficients among the independent variables, all four attitudes were significantly associated with each other. Family

obligation was negatively correlated to age segregation ($r = -.15$, $p < .01$), privacy ($r = -.14$, $p < .05$), and independence ($r = -.19$, $p < .001$). That is, the elderly who agreed with family obligation were likely to disagree with the other three attitudes. On the other hand, age segregation, privacy, and independence were positively related with each other. Age segregation and independence showed the strongest correlation ($r = .34$, $p < .001$) among the relationships of the independent variables.

In the analysis of the relationships among the independent variables and dependent variables, the current living arrangements and the preferred living arrangements were associated with all attitudes. Of the four attitudes, independence was most strongly associated with the elderly living alone ($r = .45$, $p < .001$), and those who preferred to live alone ($r = .55$, $p < .001$). They also had a positive relationship with age segregation ($r = .28$, $p < .001$; $r = .26$, $p < .001$) and privacy ($r = .19$, $p < .001$; $r = .17$, $p < .001$), but had a negative association with family obligations ($r = -.21$, $p < .001$; $r = -.20$, $p < .001$). On the other hand, the elderly who intended to change their living arrangements in the near future were likely to agree with independence ($r = .20$, $p < .001$) and age segregation ($r = .11$, $p < .05$). These findings imply that the elderly attitudes toward social norms are related to their socio-demographic status. For example, the Korean elderly living alone or with a spouse might prefer independence and age segregation because they have the ability for financial self-support, higher education or housing ownership. On the contrary, the elderly living with children might agree with family obligation since they are the old-old, widowed or not healthy.

In the correlation among the elderly living arrangements, preferred living arrangements and future intentions to change, elderly living arrangements had a strong

positive relationship with preferred living arrangements (r = .46, p < .001). The elderly

living alone also preferred living alone. On the other hand, preferred living arrangements

and future intentions to change their living arrangements were also significantly related to

each other (r = .19, p < .001) indicating that the elderly who preferred to live alone had

more possibility for changing their living arrangements.

Hypotheses Tests

The Effect of the Elderly Attitudes on Living Arrangements

Stepwise logistic regression was conducted to analyze the effects of the elderly

attitudes toward family obligation, age segregation, privacy and independence on their

living arrangements (Table 11). Each variable was named to form the equation as

follows: X_1 (family obligations), X_2 (age segregation), X_3 (privacy), and X_4

(independence).

H$_1$: Elderly attitudes toward family obligation, age segregation, personal privacy, and independence significantly influence elderly living arrangements.

By the stepwise procedure, independence was entered as a variable at the first

step, followed by age segregation and family obligation in sequence (Appendix B-1).

After independence was entered in the model, the chi-square score of privacy decreased

to an insignificant level (χ^2 = 12.84, p < .001 $\rightarrow$ χ^2 = 2.34, N.S.). This finding indicates

that the elderly in a particular living arrangement who agreed to independence also

showed positive attitudes toward privacy.

Table 11. Logistic Regression of Elderly Living Arrangements on Elderly Attitudes

Living Arrangements	Variables	DF	Parameter Estimates	Standard Error	χ^2	OR
Current living arrangements	Intercept	1	-2.76	0.65	18.03***	.
	Family obligation	1	-0.37	0.15	5.90*	0.69
	Age segregation	1	0.39	0.14	7.51**	1.48
	Independence	1	1.10	0.17	43.58***	3.00
Preferred living arrangements	Intercept	1	-2.60	0.61	17.90***	.
	Family obligation	1	-0.35	0.16	4.55*	0.71
	Independence	1	1.49	0.17	78.51***	4.45
Future intentions to change living arrangements	Intercept	1	-2.86	0.48	34.78***	.
	Independence	1	0.65	0.18	13.27***	1.91

*$\underline{p}$ < .05   **$\underline{p}$ < .01   ***$\underline{p}$ < .001

The final model is as follows:

$$X_{current\ living\ arrangements} = -2.76 - 0.37X_1 + 0.39X_2 + 1.10X_4$$

The hypothesis that elderly attitudes toward family obligations, age segregation, personal privacy, and independence significantly influence elderly living arrangements was supported by findings related to family obligations (χ^2 = 5.90, $\underline{p}$ < .05), age segregation (χ^2 = 7.51, $\underline{p}$ < .01), and independence (χ^2 = 43.58, $\underline{p}$ < .001). The elderly living alone were likely not to agree with family obligation, but to prefer age segregation and independence. The elderly living alone preferred independence three times more often than the elderly living with children ($\underline{OR}$ = 3.00). For age segregation, Wister (1985) explained that the distinct life experiences with other age groups made the elderly choose to live alone. The significant result of family obligation was consistent with the study of Brackbill and Kitch (1991), Song (1988), and Won and Lee (1999) in which

researchers confirmed that a strong relationship exists between family obligations and coresidence.

H₂: Elderly attitudes toward family obligations, age segregation, personal privacy, and independence significantly influence preferred living arrangements of the elderly.

Independence was entered as a variable at the first step, and then family obligation was added to the analysis (Appendix B-2). In the stepwise procedure, age segregation and privacy became insignificant after independence was controlled. This finding indicates that the elderly attitudes toward independence also explained their attitudes toward age segregation and privacy. Due to the strong effect of independence on preferred living arrangements of the elderly ($\chi^2 = 110.59$, $\underline{p} < .001$), those two variables were not significantly associated after independence was entered into the model.

The final model is as follows:

$$X_{\text{preferred living arrangements}} = -2.60 - 0.35X_1 + 1.49X_4$$

The hypothesis that elderly attitudes toward family obligations, age segregation, personal privacy, and independence significantly influence elderly preferred living arrangements was supported by analysis of family obligations ($\chi^2 = 4.55$, $\underline{p} < .05$) and independence ($\chi^2 = 78.51$, $\underline{p} < .001$). The elderly preferring to live alone did not agree with family obligation, but did agree with independent living of the elderly. Furthermore, they were about 4.5 times more likely to prefer independence than the elderly who preferred to live with children ($\underline{OR} = 4.45$). In preferred living arrangements,

independence explained the elderly who preferred to live alone, and family obligation influenced the elderly preferring to live with children.

H$_3$: Elderly attitudes toward family obligation, age segregation, personal privacy, and independence significantly influence elderly intentions to change their current living arrangements.

Independence was the only variable entered into the model in the stepwise procedure (Appendix B-3).

The final model is as follows:

$$X_{\text{future intentions}} = -2.86 + 0.65X_4$$

The hypothesis that elderly attitudes toward family obligations, age segregation, personal privacy, and independence significantly influence elderly intentions to change their living arrangements was explained only by the attitudes toward independence ($\chi^2 = 13.27$, $\underline{p} < .001$). The elderly who would change their living arrangements, compared to the elderly who would not change them, were about two times more likely to prefer independence ($\underline{OR} = 1.91$). This indicates that the elderly attitude toward independence is related to their socio-demographic status. That is, the elderly who prefer independence might also have more individual competence such as higher education, housing ownership, the ability for self-support, or a spouse, which means a caregiver.

Analysis of Cross-tabulated Data for Elderly Living Arrangements

Table 12 shows the 2 x 2 x 2 cross-tabulated data of elderly living arrangements. About 34% of the sample were living with children, also preferred living with children,

Table 12. Cross-tabulated Data of Elderly Living Arrangements (N=357)

n (%)

		X1			
		Co-residence		Living Alone	
		X2		X2	
		Co-residence	Living Alone	Co-residence	Living Alone
X3	No	121 (33.9)	30 (8.4)	22 (6.2)	104 (29.1)
	Yes	9 (2.5)	31 (8.7)	14 (3.9)	26 (7.3)

X1: Elderly living arrangements, X2: Preferred living arrangements, X3: Intentions to change living arrangements

and would not change their living arrangements in the near future (n=121, 33.9%). In addition, about 30% of the elderly were living alone, preferred living alone, and would not change their living arrangements in the near future (n=104, 29.1%). Only nine elderly people living with children preferred living with children and had intentions to change their living arrangements (n=9, 2.5%). The elderly who were living alone, preferred to live with children, and would change their living arrangements were 3.9% of the sample (n=14, 3.9%).

H4: Elderly living arrangements, preferred living arrangements, and their intentions to change current living arrangements are significantly associated with each other.

To investigate the association among these three variables, analyses of cross-tabulated data using chi-square and odd ratio were conducted (Table 13)

The independence between living arrangements and preferred living arrangements (X1 x X2) was rejected, when no variables were controlled, due to the significant value of

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Table 13. Chi-square and Odd Ratio of Cross-tabulated Data for Elderly Living Arrangements

Controlled Variables			X1 x X2	X2 x X3	X1 x X3
No Control		χ^2	76.78***	13.06***	0.51
		Odd-ratio	7.70	2.65	1.20
X1	=0	χ^2		48.32***	
		Odd-ratio		13.89	
	=1	χ^2		5.50*	
		Odd-ratio		0.39	
X2	=0	χ^2			24.14***
		Odd-ratio			8.56
	=1	χ^2			18.84***
		Odd-ratio			0.24
X3	=No	χ^2	108.03***		
		Odd-ratio	19.07		
	=Yes	χ^2	1.53		
		Odd-ratio	0.54		

X1: Elderly living arrangements, X2: Preferred living arrangements, X3: Intentions to change living arrangements, 0: Living with children, 1: Living alone or with spouse only
*$p < .05$ **$p < .01$ ***$p < .001$

chi-square ($\chi^2 = 76.78$, $p < .001$). Odd- ratio ($\underline{OR} = 7.70$) showed that the elderly living alone were about 7.7 times more likely to prefer to live alone. On the other hand, it could be said that the elderly living with children were more likely to prefer to live with children. That is, the majority of the elderly in Korea are living in forms of their preferred living arrangements. The association of preferred living arrangement and intentions to change living arrangements was also statistically significant ($\chi^2 = 13.06$, $\underline{p} < .001$). The elderly who preferred to live alone were about 2.7 times more likely to change

their living arrangements in the near future (OR = 2.65). But, the living arrangements and elderly intentions were not significantly associated each other (χ^2 = 0.51, N.S.).

As a second step, conditional associations of the three 2 x 2 cross-tabulated data were analyzed using a controlled variable. Among the elderly living with children ($X1=0$), the elderly who preferred to live alone were about 14 times more likely to change their living arrangements in the near future (OR = 13.89), and the finding was statistically significant (χ^2 = 48.32, p < .001), mainly due to the elderly living with unmarried children. Another explanation is that the elderly live with married children and financially support them until the children have the ability for independence. In other words, among the elderly living with their children, elderly who preferred to live with children would continue to live with their children. In contrast, among the elderly living alone ($X1=1$), the elderly who preferred living alone were about 2.6 times less likely to change their living arrangements (OR = 0.39), and this also showed statistical significance (χ^2 = 5.50, p < .05). This is an example of the Simpson Paradox[11]. Even though the preferred living arrangements and future intentions were positively related to each other when no variable was controlled, they had a negative relationship when elderly current living arrangements were controlled.

The cross-tabulated data of elderly current living arrangements and future intentions was another example of the Simpson Paradox. Among the elderly who preferred to live with children ($X2=0$), the elderly living alone were about nine times more likely to change their living arrangements (OR = 8.56), and this was statistically

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[11] The Simpson paradox occurs in a collapsing table that can lead to inappropriate weighting of the different populations. The conclusions from two-dimensional marginal tables can be contradicted by accurate three- dimensional information (Christensen, 1990).

significant ($\chi^2 = 24.14$, p < .001). This finding indicates that Korean society still has the traditional value in which the children are in obedience to their parents and become caregivers if the elderly want to live with them. Among the elderly who preferred to live alone (X2=1), the elderly living alone were about 4.2 times less likely to change their living arrangements in the near future (OR = 0.24), and this was also statistically significant ($\chi^2 = 18.84$, p < .001). That is, even though the elderly current living arrangements were not significantly related to future intentions to change their living arrangements, these two variables were revealed to be conditionally related after preferred living arrangements were controlled.

The association of elderly current living arrangements and preferred living arrangements also had the Simpson Paradox problem. Among the elderly who would not change their living arrangements (X3=No), the elderly living alone were about 19 times more likely to prefer living alone (OR = 19.07), with an association that was statistically significant ($\chi^2 = 108.03$, p < .001). On the other hand, among the elderly who would change their living arrangements (X3=Yes), the elderly living alone were about two times less likely to prefer living alone (OR = 0.54), but this did not reach statistical significance ($\chi^2 = 1.53$, N.S.). That is, the significant relationship of their current living arrangement and their preferred living arrangement was only among the elderly who would not change their living arrangement.

Summary and Conclusions

The purpose of this study was to examine the effects of elderly attitudes toward their living arrangements and to see the associations among the elderly living arrangements, preferred living arrangements, and intentions to change living arrangements.

The following are the major findings and conclusions:

Korean elderly still hold traditional values that the children should take care of their older parents, although there is a recognition of the need for privacy and of independence. The attitudes toward family obligation, age segregation, and independence are the combined determinants forming the elderly current living arrangements. In preferred living arrangements, negative attitude toward family obligation and positive attitude toward independence distinguish the elderly living alone from the elderly living with children. Independence was the only significant factor that decided the elderly future living arrangements. That is, Korean elderly consider their capabilities to be independent when choosing their future living arrangements, regardless of their attitudes toward family obligation, age segregation and privacy. These findings imply that the elderly attitudes toward social norms are related with their socio-demographic status. The Korean elderly who live or prefer to live alone, or have a plan to change their living arrangements might prefer independence and age segregation because they have the ability to live alone or to adapt to new environments, which includes a caregiver, financial self-support, higher education, or housing ownership.

In the analysis of cross tabulated data among elderly living arrangements, preferred living arrangements, and future intentions, the results showed that the

conditional associations controlling one other variable should be investigated due to the Simpson paradox in the associations among three variables. Most of the elderly are likely to continue their living arrangements if it is congruent with their preferred living arrangements. If not, they intend to change their living arrangements to respond their own choices. As Abulaban (1980) and Lopata (1973) stated, the elderly living arrangements were also decided depending on the elderly own desire to live apart from, or to live with their children. In other words, Korean society still has the traditional value in which the children are in obedience to their parents and become caregivers if the elderly want to live with them.

Implications

Based upon the results of this study, the housing planners for the elderly may be assisted to design the spaces for Korean elderly. The finding that the elderly prefer family obligation, but not completely ignore their privacy and independence implies that the housing space for the elderly should support their privacy and independence, but still have easy access for their adult children.

Korean elderly themselves also consider the ability for independence as the most important factor in their living arrangements, their preferred living arrangements and their future living arrangements. That is, it is necessary to provide effective services assisting the lack of socio-economic ability among the elderly so that they could be physically, socially and financially independent even though they are living with their children. To respond to these needs, it is necessary to modify the government policies for the elderly. The current social welfare system in Korea is limited to the maintenance of the minimum

life level assistance for the elderly who do not have a caregiver or who are under the absolute poverty line. Access to public assistance providing home care-giving, home-delivered meals, and reverse home mortgages would satisfy the broader needs of the elderly population.

This study also implies the existence of the relationship between elderly socio-demographic status and elderly attitudes toward social norms. An investigation of the effect of elderly attitudes on living arrangements, controlling elderly socio-demographic status, is needed since the life events through the process of aging could also influence their attitudes toward social norms. In addition, the actual commitments to their preferred living arrangements as well as the intentions to change the living arrangements need to be studied in order to examine the transitional process of elderly living arrangements.

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Appendix B. Stepwise Procedure in Elderly Attitudes

1. Elderly Living Arrangements

Variables	Intercept (Step 0)	Independence (Step 1)	Age Segregation (Step 2)	Family Obligation (Step 3)
Family obligation	16.49***	7.36**	5.99*	Added
Age segregation	29.30***	9.06**	Added	Added
Privacy	12.84***	2.34	1.53	1.10
Independence	73.83***	Added	Added	Added

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

2. Preferred Living Arrangements

Variables	Intercept (Step 0)	Independence (Step 1)	Family Obligation (Step 2)
Family obligation	14.34***	4.61**	Added
Age segregation	25.46***	3.74	3.02
Privacy	10.89***	0.40	0.20
Independence	110.59***	Added	Added

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

3. Future Intentions to Change Living Arrangements

Variables	Intercept (Step 0)	Independence (Step 1)
Family Obligation	0.03	0.30
Age Segregation	4.63*	0.90
Privacy	2.54	0.39
Independence	14.38***	Added

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

CHAPTER VI

ELDERLY LIVING ARRANGEMENTS IN KOREA:

SUPPORT NETWORKS

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ELDERLY LIVING ARRANGEMENTS IN KOREA:

SUPPORT NETWORKS

Abstract

Although the elderly who live with or who prefer to live with children are having more interaction in help received and given with their children, they receive more help than they give help to their children and have also an unbalanced state in the intergenerational support exchanges. The elderly living with children receive and give more help in housework such as meal preparation and cleaning. The important determinants causing the elderly to maintain their living arrangements are more help received in meal preparation and transportation and less help given to the children in living expenses. Environmental support was more important to Korean elderly who live alone or with a spouse only since they have less support from their children. They are more focused on pursuing their personal interests in traditional markets and on convenient arrangements for daily tasks through closely located restaurants and public offices. The elderly prefer to live alone live close to entertainment facilities, and the elderly who have a plan to change their living arrangements live close to sports and health facilities.

Introduction

Since the elderly spend time mainly at home or in their neighborhood, the psychological and physical environments emerge as important components to them. Even though there have been few studies of the relationship between support networks and elderly living arrangements, several researchers have mentioned the importance of support network systems in explaining elderly living arrangements. Kelman, Thomas, and Tanaka (1994) set forth the view that elderly living with others had more opportunities to have formal and informal support than elderly living alone or living with their spouse only. According to Wister and Burch (1989), the conformity of attitudes about social norms influencing living arrangements would not be possible without the emergence of support systems aimed at providing elderly with various alternatives. They added that those support systems also reduce the effects of constraining factors of elderly living arrangements, such as health and economic status.

In this study, family and environmental supports were selected as support system networks which influence elderly living arrangements in Korea. As Korean society is industrialized and urbanized, the traditional extended family system and family centered life values are changing and the nuclear family is emerging as the main family system for the elderly in Korea. Therefore, Korean elderly people are looking for alternative living arrangements or environmental settings even though they are unable to maintain independent lives with their current economic, physical and psychological status. The social welfare system in Korea has been limited to the maintenance of the minimum life level assistance for the elderly. Most of the Korean elderly who are currently 65 years old and over are not benefiting from the national pension scheme. In addition, the public still

attaches a negative view to alternative environmental settings for the elderly such as independent living facilities or nursing homes. Several nice facilities are affordable only for the rich elderly. The housing type in Korea is mainly high-rise apartments or dwellings constructed densely together due to the limited habitable land space. An arcade area such as a small shopping center, a traffic area including various public transportation systems such as buses, taxies and subway, public offices, and other neighborhood facilities are located close to the residential area. Therefore, the elderly living arrangements in Korea are affected by their neighborhood facilities.

In this study, family support was concerned with intergenerational reciprocal care in accord with the social exchange theory. Environmental support focused on the neighborhood supporting facilities for the elderly.

The following are research questions for this study:

1. Does family reciprocal care significantly influence elderly living arrangements, preferred living arrangements, and future intentions to change current living arrangements?

2. Does the propinquity of the elderly environmental support significantly influence elderly living arrangements, preferred living arrangements, and future intentions to change current living arrangements?

Definitions of Terms

Environmental support: for the elderly is defined in multiple ways. Comprehensively, the definition includes indoor and outdoor structural support such as non-slip floors or providing a personal garden for the elderly, neighborhood facilities

such as medical services or transportation, or formal services administrated by special

institutions such as food delivery services or housework assistance programs. In Korea,

formal services in the local community are rarely provided, and indoor/outdoor structural

support has not been significantly related to the elderly in selection of their living

arrangements. For this study, neighborhood facilities were considered to be

environmental support networks for the elderly and their relationship with elderly living

arrangements was investigated.

Propinquity: is the degree of convenience of access to the space that people

occupy or use. In this study, access to neighborhood facilities was measured.

Literature Review

Family Support

Family relationships in later life have been of considerable interest to many

researchers since demographic transitions and other social changes influence kinship

structure and functions in both Western and developing countries (Bengtson, 1993, cited

from Chen, 1996). In modern society, support given to the elderly from their children

only does not effectively function as the indicator of elderly living arrangements. As

many family members are going outside for work or other activities, alternatively many

researchers try to see the family support in the perspective of intergenerational reciprocal

care illustrating the social exchange theory. The social exchange theory deals with the

balance between dependence and power in the relationship of two persons (Brackbill &

Kitch, 1991). In the study about Chinese family, Chen (1996) reported that

intergenerational exchange characterized by resources, needs, and opportunities available

to the parents and their children were more dependable for explaining family solidarity than normative solidarity such as filial responsibility. That is, the exchange of help is a dimension of intergenerational relations that may indicate the extent and depth of the generation's mutual commitment.

Research considering the relationship between family support and elderly living arrangements has rarely been conducted. Many researchers who have studied intergenerational reciprocal care insist that elderly living arrangements are influenced by, or influence the degree of resource exchanges between adult child and older parents (Brackbill & Kitch, 1991; McCulloch, 1995; Mehta, Osman, & Lee, 1995; Mickus, Stommel, & Give, 1997; Mutran & Reitzes, 1984; Norgard & Rodgers, 1997). McCulloch (1995), Mickus, Stommel and Given (1997), and Norgard and Rodgers (1997) indicated that proximity to children increased the amount of parent-child interaction and made support available to older parents. Mehta, Osman and Lee (1995), who studied elderly living arrangements in Singapore, reported that the benefits of coresidence were emotional support or psychological gratification from their adult children. They added that elderly living with their children also played an important role in giving advice to their children about decision making in raising grandchildren or setting up a new home. On the other hand, Mutran and Reitzes (1984) reported that older widowed women were psychologically gratified by their children's care, while helping children financially. In the study of intergenerational relationships between young adult children (ages 19-34) that have not established themselves, and older parents, Brackbill and Kitch (1991) also indicated that many elderly living with adult children contributed money to their children, thereby reducing the need for them to work outside the home.

Not all research found the support for the elderly in coresidence living arrangements, or the mutual commitment in support between adult children and their older parents. Spitze and Logan (1990) found that only 13% of the elderly living with an adult child received any help from their children. The study of Dowd (1980) explained the inability of the elderly to exchange services with their children. He argued that diminishing resources in old age leave elders in unbalanced exchange relations.

Table 14 shows the types of intergenerational reciprocal care which have been studied by several researchers. Reciprocal care was categorized as emotional, financial, and physical support. The emotional support included problem counseling and legal aid. The financial support included living and travel expenses, gifts and property transfer. The physical support dealt with housework, transportation and health care. The majority of researchers have focused on physical care.

Environmental Support

The elderly aged 65 and over consider their houses as the most comfortable place to live as long as possible and are less likely to move. To respond to the decrease of movement in later life, the housing environment needs to possess appropriate support systems that could positively influence the elderly physical, psychological, and social abilities. In modern society, since the demands of the elderly living with their children are difficult to solve by only the care-giving children, the neighborhood support systems are considered to be significant components.

Table 14. Family Reciprocal Care in the Reviewed Literature

Researchers	Emotional	Financial	Physical
Chang (1989)		Living expenses Pocket money Purchasing Gifts Condolence money Gratuity Travel expenses	Meal preparation Dish washing Shopping Housework Housekeeping Babysitting Laundering Assistance when ill Errands Making beds
Hur (1996)	Family emotional	Financial assistance	Assistance when ill Housekeeping Meal preparation Shopping Transportation
Kelman, Thomas & Tanaka (1994)	Money management		Personal care Nursing Meal preparation Shopping Cleaning & laundry Transportation
McCulloch (1990)	Important decisions Legal aid	Financial aid	Household repairs Housekeeping Shopping Yard work Car care Assistance when ill Transportation
Rhee (1996)	Emotional	Financial Property transfer	Physical
Whitbeck et al. (1994)	Emotional support		Transportation Health care

Neighborhood facilities have significant meaning for the elderly who have reduced mobility, economic status and mental ability. Transportation, medical services, cohort group facilities, and entertainment/sports facilities are environmental supports. Convenient transportation systems especially appeared to encourage the elderly in maintaining contact with society and eliminating their social isolation (Newman, 1986). Other suggested support includes public offices, purchasing systems such as shopping malls, and learning facilities such as libraries.

Studies focusing on the relationship of environmental support and elderly living arrangements have been conducted rarely and the results are inconsistent. But, researchers have emphasized the importance of environmental support for older people. In the study of Lee and Chang (1991) in Korea and the study of Thompson and Krause (1998) in the U.S. pointed out that the housing environment was more meaningful to the single household elderly whose independent decision making was important for problem solving in their lives. They also added that single household elderly did not receive physical and emotional support from their children, as compared to the elderly living with their adult children. So they need more convenient and comfortable environmental support to compensate for the lack of family resources.

Korean middle-aged people thought that the most necessary component in their later lives would be financial assistance followed by propinquity to various services including transportation and medical services. Other requirements were assistance for housework and shopping, interaction with friends and neighborhood. Outside activities were of principal importance in predicting changes in living arrangements regardless of the initial elderly living arrangement (Shin, 1998). Byun (1994) studied environmental

affordance for the Korean elderly in the three-generation family and found that the elderly living with their adult children lived at a greater distance from support services. Access to medical services, sports centers, post offices, banks and traditional markets was inconvenient. The study that investigated the elderly living alone or living with their spouse in Korea indicated that the elderly needed closer transportation systems, a public bathing facility and senior centers (Park, 1994).

In summary, literature shows the strong relationship between proximity to children and the amount of parent-child interaction. Several Western studies found that the elderly living with children were receiving psychological help and giving psychological or financial help to their children. In environmental support, the researchers have reported that the elderly living alone need more convenient environmental support since they do not have many interactions with their children. Several Korean studies proved the significant relationship between the coresidence living arrangement and the greater distance from support services.

Methodology

Instrument

General Characteristics of the Elderly

The socio-demographic status of the elderly including age, gender, marital status, education, housing ownership, financial self-support and health status was investigated in order to summarize the general characteristics of the elderly in the study.

Current living arrangement and preferred living arrangements were categorized as: living with children (0), and living alone or with a spouse only (1). Future intentions to

change the current living arrangement were coded as Yes (1) or No (0). The questions were as follows: "Do you have a plan to live with your children in the future?" (the question for the elderly living alone); "Do you have a plan to live alone in the future?" (the question for the elderly living with an adult child).

Family Support: Intergenerational Reciprocal Care

Intergenerational reciprocal care was divided into two categories: help received (care from the adult child having the most contact with the elderly person), and help given (care from the elderly to an adult child having the most contact). Based on previous studies, the following ten types of helps comprising intergenerational reciprocal care were developed: advising important decisions, money management, living expenses/pocket money, assistance when ill, cleaning and laundering, looking after the house (and baby sitting for help given), meal preparation, making beds, transportation, and shopping. Scoring of each item ranged from 1 indicating no aid, to 5 indicating aid always. Intergenerational exchanges were calculated by subtracting help given from help received for each elderly to observe which group of the elderly receive more help from their children. The absolute values of the intergenerational exchanges were used to measure the degree of exchange balance.

Environmental Support Networks

Based on the studies of Byun (1994), Hur (1996) and Park (1994), 16 items comprising environmental support networks were identified: senior centers, hospital/herb clinic, pharmacy, sports/health facilities, religious facilities, banking facilities, arcade

areas,[12] traditional markets,[13] a green tract of land, entertainment facilities, restaurants, hair salon, public bath/sauna, public offices, and public transportation systems.

The degree of propinquity was measured by a five-point scale: don't know or no facility (1), 15-30 minutes by transportation (2), within 15 minutes by transportation (3), 15-30 minutes by walking (4), within 15 minutes by walking (5). The elderly were asked using a five-point scale how often they utilized those facilities: no use (1), once a year or less (2), several times a year (3), once a month or more (4), once a week or more (5).

Data Collection and Analysis

The study population was Korean elderly aged 65 years or over having at least one living child, and living alone, with spouse only, or living with their children in Korea. The elderly whose spouse participated in this study were excluded from the interview since they would have the same responses regarding the intergenerational reciprocal care. Based on housing ownership and the elderly population of 65 years and older in Seoul, five areas were selected for data collection. A total of 357 elderly consisting of 166 living alone or with a spouse only and 191 living with their children participated in the study to allow comparison of these two groups.

Frequencies, percentages and chi-square scores were applied to summarize general characteristics of the elderly. Means and standard deviations for each example of

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[12] In Korea, an arcade area means the area consists of various markets such as grocery store, clothing store, and shopping center.
[13] Traditional markets in Korea mean a series of stores dealing with traditional apparels, ornaments, furniture, or handicrafts.

support networks were used to describe the data. The relationships between variables entered in this study were presented by the Pearson product moment correlation coefficient. A stepwise logistic regression was performed to test the influences of the intergenerational reciprocal care and the propinquity of neighborhood facilities upon the dependent variables (elderly living arrangements, preferred living arrangements of the elderly, and intentions to change their current living arrangements).

Results

Descriptive Statistics of the Sample

General Characteristics of the Elderly

The elderly demographic, economic and health status are reported based on descriptive statistics (Table 15). Almost 30% of the elderly were 65-69 years old, and three other categories (70-74, 75-79, and 80-84) having about 20% each. The percentage of female elderly (66.9%) was twice that of male elderly (33.1%). There were a few more unmarried elderly (56.3%) than married elderly (43.7%) in this study. Almost 70% of the elderly did not complete grade six of elementary school and approximately 10% of the elderly received some college education. The economic status of the elderly was nearly evenly distributed by the categories. About half of the elderly had their own housing (48.7%), and another half (51.3%) did not own their housing. More than half of the elderly (55.2%) were receiving financial assistance from their children. The elderly in the study were relatively healthy. More than half of the elderly did not have any difficulty in doing ADLs and IADLs (56.6%), and 20% had one or two limitations in doing certain activities.

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Table 15. General Characteristics of the Elderly

Variables	Living Arrangements		Preferred Living Arrangements		Intentions to change		Total#
	Coresidence#	Living Alone#	Coresidence#	Living Alone#	Yes#	No#	
	191 (100.0)	166 (100.0)	166 (100.0)	191 (100.0)	80 (100.0)	277 (100.0)	357 (100.0)
Age (years old)							
65-69	36 (18.9)	67 (40.4)	27 (16.3)	76 (39.8)	28 (35.0)	75 (27.1)	103 (28.9)
70-74	36 (18.9)	33 (19.9)	29 (17.5)	40 (20.9)	21 (26.3)	48 (17.3)	69 (19.3)
75-79	45 (23.6)	35 (21.1)	41 (24.7)	39 (20.4)	14 (17.5)	66 (23.8)	80 (22.4)
80-84	38 (19.9)	24 (14.5)	41 (24.7)	21 (11.0)	12 (15.0)	50 (18.1)	62 (17.4)
85+	36 (18.9)	7 (4.2)	28 (16.9)	15 (7.9)	5 (6.3)	38 (13.7)	43 (12.0)
	$\chi^2 = 31.84***$		$\chi^2 = 33.91***$		$\chi^2 = 8.22$		
Gender							
Female	148 (77.5)	91 (54.8)	122 (73.5)	117 (61.3)	42 (52.5)	197 (71.1)	239 (66.9)
Male	43 (22.5)	75 (45.2)	44 (26.5)	74 (38.7)	38 (47.5)	80 (28.9)	118 (33.1)
	$\chi^2 = 20.62***$		$\chi^2 = 6.01*$		$\chi^2 = 9.73**$		
Marital status							
Unmarried	136 (71.2)	65 (39.2)	119 (71.7)	82 (42.9)	30 (37.5)	171 (61.7)	201 (56.3)
Married	55 (28.8)	101 (60.8)	47 (28.3)	109 (57.1)	50 (62.5)	106 (38.3)	156 (43.7)
	$\chi^2 = 37.08***$		$\chi^2 = 29.85***$		$\chi^2 = 14.82***$		
Education							
None	92 (48.2)	34 (20.5)	80 (48.2)	46 (24.1)	18 (22.5)	108 (39.0)	126 (35.3)
Elementary	62 (32.5)	52 (31.3)	62 (37.4)	52 (27.2)	22 (27.5)	92 (33.2)	114 (31.9)
Middle school	11 (5.8)	12 (7.2)	9 (5.4)	14 (7.3)	8 (10.0)	15 (5.4)	23 (6.4)
High school	16 (8.4)	41 (24.7)	8 (4.8)	49 (25.7)	17 (21.3)	40 (14.4)	57 (16.0)
College+	10 (5.2)	27 (16.3)	7 (4.2)	30 (15.7)	15 (18.8)	22 (7.9)	37 (10.4)
	$\chi^2 = 44.86***$		$\chi^2 = 53.44***$		$\chi^2 = 16.24**$		

Table 15 (Cont'd). General Characteristics of the Elderly

Housing ownership							
Not own	128 (67.0)	55 (33.1)	111 (66.9)	72 (37.7)	27 (33.8)	156 (56.2)	183 (51.3)
Own	63 (33.0)	111 (66.9)	55 (33.1)	119 (62.3)	53 (66.3)	121 (43.7)	174 (48.7)
	$\chi^2 = 40.81$***		$\chi^2 = 30.25$***		$\chi^2 = 12.65$***		
Financial self support							
No	142 (74.4)	55 (33.1)	124 (74.7)	73 (38.2)	30 (37.5)	167 (60.3)	197 (55.2)
Yes	49 (25.7)	111 (66.9)	42 (25.3)	118 (61.8)	50 (62.5)	110 (39.7)	160 (44.8)
	$\chi^2 = 61.00$***		$\chi^2 = 47.79$***		$\chi^2 = 13.04$***		
Health status[##]							
0	88 (46.1)	114 (68.7)	72 (43.4)	130 (68.1)	49 (61.3)	153 (55.2)	202 (56.6)
1-2	36 (18.6)	37 (22.3)	37 (22.3)	36 (18.9)	21 (26.3)	52 (18.8)	73 (20.4)
3-5	35 (18.3)	10 (6.0)	36 (21.7)	9 (4.7)	6 (7.5)	39 (14.1)	45 (12.6)
6-8	20 (10.5)	4 (2.4)	14 (8.4)	10 (5.2)	2 (2.5)	22 (7.9)	24 (6.7)
9+	12 (6.3)	1 (0.6)	7 (4.2)	6 (3.1)	2 (2.5)	11 (4.0)	13 (3.6)
	$\chi^2 = 35.65$***		$\chi^2 = 32.02$***		$\chi^2 = 7.33$		

Frequencies (%)
The categories of health status indicate the number of limitations in ADLs and IADLs.
*p< .05 **p< .01 ***p< .001

Table 15 also shows that there were significant differences in elderly socio-demographic status presented by the elderly living arrangements. Compared to the elderly living or preferring to live with children, the elderly living alone or preferring to live alone were more likely to be the young-old ($\chi^2 = 31.84$, p < .001; $\chi^2 = 33.91$, p < .001), male elderly ($\chi^2 = 20.62$, p < .001; $\chi^2 = 6.01$, p < .05), married ($\chi^2 = 37.08$, p < .001; $\chi^2 = 29.85$, p < .001), having higher education ($\chi^2 = 44.86$, p < .001; $\chi^2 = 53.44$, p < .001), having their own housing ($\chi^2 = 40.81$, p < .001; $\chi^2 = 30.25$, p < .001), having financial self-support ($\chi^2 = 61.00$, p < .001; $\chi^2 = 47.79$, p < .001), and healthy ($\chi^2 = 35.65$, p < .001; $\chi^2 = 32.02$, p < .001). On the other hand, the elderly who tried to maintain their current living arrangements were more likely to be female ($\chi^2 = 9.73$, p < .01), unmarried ($\chi^2 = 14.82$, p < .001), have lower education ($\chi^2 = 16.24$, p < .01), and not have their own housing ($\chi^2 = 12.65$, p < .001) and financial self-support ($\chi^2 = 13.04$, p < .001), compared to the elderly who had intentions to change their living arrangements. Age and health status of the elderly were not significant in deciding future living arrangements.

Intergenerational Supports

Table 16 shows the relationships among the variables in family support and elderly living arrangements.

Mean and standard deviations. Of the examples of help received, living expenses were mostly received from the children to the elderly (M=3.09, SD=1.69), followed by assistance when ill (M=2.92, SD=1.68) and advising (M=2.77, SD=1.43). But, the elderly did not get much help in making beds (M=1.32, SD=0.97) and shopping (M=1.66,

Table 16. Correlation Coefficients of Intergenerational Reciprocal Cares

Variables	1	2	3	4	5	6	7	8	9	10
1. Advising (Mean=2.77 SD=1.43)	1.00									
2. Money management (Mean=1.77 SD=1.40)	.14***	1.00								
3. Living expenses (Mean=3.09 SD=1.69)	.19***	.44***	1.00							
4. Assistance when ill (Mean=2.92 SD=1.68)	.23***	.32***	.41***	1.00						
5. Cleaning (Mean=2.49 SD=1.70)	.14**	.26***	.40***	.41***	1.00					
6. Looking after house (Mean=1.86 SD=1.41)	.20***	.17***	.27***	.36***	.63***	1.00				
7. Meal preparation (Mean=2.56 SD=1.71)	.15**	.32***	.45***	.38***	.85***	.61***	1.00			
8. Making beds (Mean=1.32 SD=0.97)	.16**	.17***	.16**	.27***	.30***	.29***	.36***	1.00		
9. Transportation (Mean=2.03 SD=1.33)	.20***	.36***	.32***	.39***	.45***	.41***	.48***	.27***	1.00	
10. Shopping (Mean=1.66 SD=1.12)	.19***	.41***	.31***	.33***	.33***	.27***	.40***	.34***	.57***	1.00
11. Advising (Mean=2.55 SD=1.49)	.48***	-.11*	-.11*	.03	-.07	.02	-.10	-.03	-.04	.00
12. Money management (Mean=1.27 SD=0.87)	.09	.07	-.05	.13*	.04	.08	.00	.08	.15**	.15**
13. Living expenses (Mean=1.42 SD=0.94)	.05	-.09	-.29***	-.14**	-.16**	-.09	-.13*	.00	-.03	-.04
14. Assistance when ill (Mean=1.66 SD=1.18)	.19***	.10	.07	.32***	.04	.05	.03	.12*	.04	.12*
15. Cleaning (Mean=1.68 SD=1.17)	.05	.17***	.23***	.09	.02	.10	.12*	.03	.05	.11*
16. Looking after house (Mean=1.93 SD=1.24)	.06	.10	.16**	.12*	.07	.10	.10	.03	.03	.07
17. Meal preparation (Mean=1.67 SD=1.13)	.07	.08	.14**	.00	-.04	.07	.03	.03	.02	.06
18. Making beds (Mean=1.11 SD=0.58)	-.09	.02	-.02	.00	-.12*	-.07	-.09	.04	-.04	.02
19. Transportation (Mean=1.03 SD=0.27)	-.03	-.02	-.09	.03	-.08	-.01	-.06	.05	-.03	-.03
20. Shopping (Mean=1.13 SD=0.56)	-.06	.11*	.02	.08	-.04	-.04	-.02	.04	.04	.17***
21. Exchanges (Mean=7.06, SD=10.28)	.26***	.46***	.57***	.52***	.72***	.58***	.73***	.40***	.60***	.50***
22. Balance (Mean=9.29 SD=8.32)	.18***	.44***	.50***	.55***	.69***	.58***	.70***	.43***	.61***	.50***
23. Living arrangements	-.13*	-.29***	-.42***	-.34***	-.52***	-.46***	-.64***	-.24***	-.32***	-.31***
24. Preferred living arrangements	-.08	-.33***	-.37***	-.32***	-.41***	-.37***	-.48***	-.28***	-.34***	-.25***
25. Future Intentions	-.01	-.11*	-.20***	-.10	-.23***	-.19***	-.23***	-.10	-.21***	-.16**

1 to 10: Help received from children, 11 to 20: Help given to children *p<.05 **p<.01 ***p<.001

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	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
11	1.00														
12	.28***	1.00													
13	.23***	.44***	1.00												
14	.36***	.30***	.10	1.00											
15	.10	.12*	.04	.31***	1.00										
16	.17***	.13*	.04	.36***	.59***	1.00									
17	.14**	.10	.12*	.23***	.80***	.57***	1.00								
18	.14**	.23***	.19***	.29***	.46***	.35***	.45***	1.00							
19	.08	.17**	.24***	.17***	.15**	.16**	.21***	.26***	1.00						
20	.10*	.28***	.08	.18***	.22***	.27***	.22***	.12*	.36***	1.00					
21	-.28***	-.16*	-.35***	-.18***	-.23***	-.23***	-.31***	-.36***	-.23***	-.18***	1.00				
22	-.12*	.10	-.05	.09	.09	.06	.03	.16**	.13*	.01	.71***	1.00			
23	.05	-.09	.08	-.15**	-.46***	-.35***	-.34***	-.18***	-.06	-.07	-.37***	-.55***	1.00		
24	.12*	.06	.18***	.00	-.13*	-.02	-.01	.03	.08	.01	-.48***	-.46***	.47***	1.00	
25	.13*	.11*	.23***	.07	.04	.06	.11*	.09	.13*	.05	-.32***	-.16**	.05	.20***	1.00

1 to 10: Help received from children, 11 to 20: Help given to children *p<.05 **p<.01 ***p<.001

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$\underline{SD}$=1.12). On the other hand, help given from the elderly to their children was rare. Of those items, advising showed the highest mean of help given ($\underline{M}$=2.55, $\underline{SD}$=1.49). They hardly gave help in transportation ($\underline{M}$=1.03, $\underline{SD}$=0.27), making beds ($\underline{M}$=1.11, $\underline{SD}$=0.58), and shopping ($\underline{M}$=1.13, $\underline{SD}$=0.56) to their children. Therefore, Korean elderly were most likely to receive financial help from their children and to give psychological help to them. This result is opposite of the findings of Brackbill and Kitch (1991), and Mutran and Reitzes (1984), in which they found more emotional support from the children to the parents, and more financial support from the parents to the children. This may be due to the difference of the study sample in which the parents having young adult children or the widowed elderly were the subjects for the above studies. Another reason might be that Korean elderly and adult children have traditional values in which the children take financial responsibility for their older parents, and the parents give advice to the children as elder persons who have more life experiences. In the intergenerational exchange, the elderly are likely to receive more help from the children than to give help to them ($\underline{M}$=7.06, $\underline{SD}$=10.28). The absolute value of difference of help received and help given was about nine points ($\underline{M}$=9.29, $\underline{SD}$=8.32), indicating reciprocal care between older parents and adult children is in an unbalanced state. As Dowd (1980) stated, this is due to the diminishing resources of the elderly for exchanging services.

Correlation between variables. Housework such as meal preparation, cleaning/laundering, and looking after the house were strongly associated with each other both in help received and help given. Meal preparation and cleaning/laundering had the strongest association ($\underline{r}$ = .85, $\underline{p}$ < .001; $\underline{r}$ = .80, $\underline{p}$ < .001). Looking after the house was

also strongly correlated with cleaning and laundering ($r = .63$, $p < .001$; $r = .59$, $p < .001$), and meal preparation ($r = .61$, $p < .001$; $r = .57$, $p < .001$). In addition, transportation and shopping in the help received list also showed a relationship greater than 50% ($r = .57$, $p < .001$).

Of the relationships among the help received and the help given, if the elderly were receiving the help in a reciprocal care item, they were likely to give the help back to their children in a reciprocal item. The elderly receiving advice from their children also gave advice ($r = .48$, $p < .001$) to the children. When they received assistance when ill, they were giving back the help to their children ($r = .32$, $p < .001$). But the elderly receiving living expenses were not likely to give the financial help to their children ($r = -.29$, $p < .001$). Instead, the elderly receiving living expenses were helping the children in cleaning and laundering ($r = .23$, $p < .001$).

In the relationship between each reciprocal care item and the exchange, the elderly receiving help in meal preparation ($r = .73$, $p < .001$), cleaning/laundering ($r = .72$, $p < .001$), transportation ($r = .60$, $p < .001$), looking after the house ($r = .58$, $p < .001$), and living expenses ($r = .57$, $p < .001$) showed a higher total score in help received than in help given. On the other hand, the help given to the children in making beds ($r = -.36$, $p < .001$), living expenses ($r = -.35$, $p < .001$), and meal preparation ($r = -.31$, $p < .001$) was associated with a higher total score in help given than in help received.

In the relationships between each reciprocal care item and the degree of exchange balance, the elderly receiving the help in meal preparation were most likely to show unbalanced exchanges in intergenerational reciprocal care ($r = .70$, $p < .001$), followed by the help received in cleaning and laundering ($r = .69$, $p < .001$), transportation ($r = .61$, p

< .001), looking after the house ($\underline{r}$ = .58, $\underline{p}$ < .001), and assistance when ill ($\underline{r}$ = .55, $\underline{p}$ < .001). On the other hand, the help given items were not closely associated with the degree of exchange balance except making beds ($\underline{r}$ = .16, $\underline{p}$ < .01), transportation ($\underline{r}$ = .13, $\underline{p}$ < .05), and advising ($\underline{r}$ = -.12, $\underline{p}$ < .05), which were statistically significant, but not more strongly related than in help received.

In the relationship between dependent variables and reciprocal care items, the elderly living with children were more likely to receive help in housework such as meal preparation ($\underline{r}$ = -.64, $\underline{p}$ < .001), cleaning and laundering ($\underline{r}$ = -.52, $\underline{p}$ < .001) and looking after the house ($\underline{r}$ = -.46, $\underline{p}$ < .001). They were also giving the help back in cleaning and laundering ($\underline{r}$ = -.46, $\underline{p}$ < .001), looking after the house ($\underline{r}$ = -.35, $\underline{p}$ < .001), and meal preparation ($\underline{r}$ = -.34, $\underline{p}$ < .001). That is, the elderly living with children more often received from and gave help to their children, especially in housework than the elderly living alone. This result was consistent with the studies of McCulloch (1995), Mickus, Stommel, and Given (1997), and Norgard and Rodgers (1997) in which they reported the strong relationship between proximity to children and increased amount of parent-child interaction. This result is related with the finding in elderly demographic status. Since the female elderly were likely to live with children, they could help with the housework. Also the elderly living with children are less likely to have a spouse to care for might be more concerned with helping in housework. But the elderly living alone had more balance in help received and help given ($\underline{r}$ = -.55, $\underline{p}$ < .001).

The elderly who preferred to live with children were also more likely to receive help in housework such as meal preparation ($\underline{r}$ = -.48, $\underline{p}$ < .001), cleaning and laundering ($\underline{r}$ = -.41, $\underline{p}$ < .001), and looking after the house ($\underline{r}$ = -.37, $\underline{p}$ < .001). The elderly not

receiving from or giving living expenses to the children were likely to prefer living alone ($r = -.37$, $p < .001$; $r = .18$, $p < .001$). They also had a balance in intergenerational support ($r = -.46$, $p < .001$). On the other hand, the elderly changing their living arrangements in the near future more often tended to give living expenses to the children ($r = .23$, $p < .001$), but not to receive housework help such as cleaning and laundering ($r = -.23$, $p < .001$), and meal preparation ($r = -.23$, $p < .001$). This is because the elderly who intend to change their living arrangements are likely to have financial self-support and housing ownership so that they are personally self-sufficient and can easily adapt to the new environments. They had more balance in family support than the elderly who maintain their living arrangements ($r = -.16$, $p < .01$).

Environmental Support

Frequency of use and propinquity of neighborhood facilities. Prior to conducting the logistic regression analysis of living arrangements on propinquity of facilities, the mean, standard deviation, and the correlation between frequency of use and propinquity were investigated to see the general situation of neighborhood facilities for Korean elderly (Table 17). The Korean elderly were most likely to use public baths (M=3.82, SD=1.49), followed by public transportation (M=3.60, SD=1.54) and arcades (M=3.39, SD=1.69). They were less often using entertainment facilities (M=1.27, SD=0.75), sports facilities (M=1.54, SD=1.35) and educational facilities (M=1.71, SD=1.46). In regard to propinquity, educational facilities were seldom found in the place where the elderly were living (M=1.87, SD=1.46). Sports and entertainment facilities were also located at distances more than 15 minutes by transportation (M=1.99, SD=1.56; M=2.30, SD=1.70).

Table 17. Frequency of Use and Propinquity of Neighborhood Facilities

| Neighborhood facilities | Frequency of use | | Propinquity | | Correlation coefficients |
	Mean	SD	Mean	SD	
1. Senior center	2.97	1.94	4.14	1.35	0.31***
2. Hospital	3.10	1.29	3.38	1.52	0.10
3. Pharmacy	3.18	1.44	4.59	1.02	0.21***
4. Sports facility	1.54	1.35	1.99	1.56	0.44***
5. Educational facility	1.71	1.46	1.87	1.46	0.43***
6. Religious facility	3.30	1.76	3.33	1.66	0.23***
7. Banking facility	2.89	1.55	4.22	1.20	0.45***
8. Arcade area	3.39	1.69	4.58	0.97	0.43***
9. Traditional market	2.44	1.66	3.00	1.65	0.55***
10. Green tract of land	2.45	1.69	2.89	1.58	0.39***
11. Entertainment facility	1.27	0.75	2.30	1.70	0.15**
12. Restaurants	2.27	1.51	3.33	1.72	0.25***
13. Hair salon	3.34	1.01	4.34	1.21	0.23***
14. Public bath/Sauna	3.82	1.49	4.53	1.01	0.28***
15. Public offices	2.22	1.32	4.27	0.98	0.27***
16. Public transportation	3.60	1.54	4.42	0.89	0.23***

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

On the other hand, the pharmacy and arcade areas were located more closely to the elderly (M=4.59, SD=1.02; M=4.58, SD=0.97).

Most of the relationships between the frequency of use and propinquity were significant. Of those relationships, traditional markets had a powerful association between frequency of use and propinquity (r = .55, p < .001). That is, the elderly who more frequently used the traditional market lived close to the traditional market. In

addition, banking facilities ($\underline{r}$ = .45, $\underline{p}$ < .001), sports facilities ($\underline{r}$ = .44, $\underline{p}$ < .001), educational facilities ($\underline{r}$ = .43, $\underline{p}$ < .001) and arcade areas ($\underline{r}$ = .43, $\underline{p}$ < .001) also showed a strong relationship in their frequency of use and propinquity. On the other hand, the frequency of use and propinquity of hospitals were slightly disassociated with each other ($\underline{r}$ = .10, $\underline{p}$ = .054). In summary, Korean elderly were using the facilities which were located in the closed proximity to where they were living.

Correlation among the propinquity of the facilities. Table 18 shows the relationships among the variables in the propinquity of the facilities and elderly living arrangements. All the relationships among the propinquity of the facilities were positively related to each other. Sports facilities and educational facilities had the strongest relationship ($\underline{r}$ = .49, $\underline{p}$ < .001). That is, the elderly living close to sports facilities were likely to live close to the educational facilities. In addition, the propinquity of the banks and the public offices ($\underline{r}$ = .44, $\underline{p}$ < .001), and that of the hair salon and the public bath ($\underline{r}$ = .44, $\underline{p}$ < .001) were also strongly related each other. Those associations were not considered to seriously influence the regression analysis.

In the relationship among the elderly living arrangements and the propinquity of each facility, the elderly living alone were likely to live close to the traditional markets ($\underline{r}$ = .20, $\underline{p}$ < .001). It was followed by public offices ($\underline{r}$ = .19, $\underline{p}$ < .001), arcade areas ($\underline{r}$ = .17, $\underline{p}$ < .001), and restaurants ($\underline{r}$ = .17, $\underline{p}$ < .001). The elderly who preferred to live alone were living close to entertainment facilities ($\underline{r}$ = .21, $\underline{p}$ < .001), public offices ($\underline{r}$ = .20, $\underline{p}$ < .001), banks ($\underline{r}$ = .19, $\underline{p}$ < .001), and restaurants ($\underline{r}$ = .17, $\underline{p}$ < .001) in sequence. On the other hand, the elderly who planned to change their living arrangements in the near future

Table 18. Correlation Coefficients of Environmental Support Networks for the Elderly

Variables	1	2	3	4	5	6	7	8	9	10
1. Senior center	1.00									
2. Hospital	.16**	1.00								
3. Pharmacy	.15**	.28***	1.00							
4. Sports facility	.07	.00	.16**	1.00						
5. Educational facility	.17**	.04	.12*	.49***	1.00					
6. Religious facility	.05	.13*	.03	.11*	.23***	1.00				
7. Bank	.17**	.14**	.33***	.24***	.18***	.09	1.00			
8. Arcade area	.24***	.15**	.26***	.11*	.11*	.20***	.32***	1.00		
9. Traditional market	.07	.06	.05	.13*	.21***	.05	.14*	.18***	1.00	
10. Green tract of land	.08	.03	.01	.20***	.17***	.03	.19***	.09	.08	1.00
11. Entertainment facility	.16**	.09	.15**	.15**	.24***	.21***	.26***	.21***	.15**	.27***
12. Restaurants	.16**	.10	.17**	.21***	.26***	.17**	.31***	.21***	.04	.16**
13. Hair salon	.13*	.12*	.24***	.12*	.16**	.25***	.16**	.27***	.15**	.11*
14. Public bath	.11*	.06	.19***	.07	.12*	.20***	.21***	.30***	.06	.15**
15. Public office	.10	.02	.14**	.21***	.20***	.10	.44***	.22***	.14*	.24***
16. Public transportation	.16**	.15**	.36***	.24***	.23***	.16**	.36***	.24***	.11*	.14*
17. Living arrangements	.05	.02	.06	.15**	.14*	.08	.16**	.17**	.20***	.10
18. Preferred living arrangements	.04	.00	.05	.15**	.11*	.06	.19***	.09	.14*	.13*
19. Future intentions	.03	.04	-.02	.16**	.09	-.02	.08	.07	.07	.09

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

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Table 18 (Cont'd). Correlation Coefficients of Environmental Support Networks for the Elderly

	11	12	13	14	15	16	17	18	19
	1.00								
	.33***	1.00							
	.19***	.20***	1.00						
	.18***	.21***	.44***	1.00					
	.20***	.13*	.19***	.25***	1.00				
	.30***	.19***	.14**	.19***	.31***	1.00			
	.14*	.17***	.08	.13*	.19***	.15**	1.00		
	.21***	.17***	.03	.00	.20***	.14*	.46***	1.00	
	.09	.07	.11*	.10	.13*	.05	.04	.19***	1.00

* $p < .05$ ** $p < .01$ *** $p < .001$

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were likely to live close to the sports and health facilities ($r = .16$, $p < .01$). These findings imply the association between elderly socio-demographic status and the propinquity of facilities. The elderly who live with or prefer to live with children, or have a plan to change their living arrangements have easy access to neighborhood facilities because they have more resources to spend activities in those facilities such as higher education, financial self-support and housing ownership.

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Hypotheses Tests

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Intergenerational Supports

To analyze the effects of the intergenerational reciprocal care on elderly living arrangements, the stepwise logistic regression was performed (Table 19). Each variable was named to conveniently form the equation as follows: X_1 (advising), X_2 (money management), X_3 (living expenses), X_4 (assistance when ill), X_5 (cleaning/laundering), X_6 (looking after the house), X_7 (meal preparation), X_8 (making beds), X_9 (transportation), and X_{10} (shopping). In addition help received and help given were distinguished by the capitals R (help received) and G (help given).

H_1: Family reciprocal care significantly influences elderly living arrangements.

Through the stepwise logistic regression procedure, meal preparation in help received was entered into the model first, and then it was followed by cleaning/laundering in help given, and assistance when ill in help received. The detail stepwise procedure is provided in Appendix C-1.

Table 19. Logistic Regression of Elderly Living Arrangements on Intergenerational Reciprocal Care

Living Arrangements	Helps	DF	Parameter Estimates	Standard Error	χ^2	OR
Current living arrangements	Intercept	1	4.90	0.51	90.40***	.
	Assistance when ill (R)	1	-0.26	0.11	5.95*	0.77
	Meal preparation (R)	1	-0.98	0.11	77.89***	0.37
	Cleaning/laundering (G)	1	-1.31	0.22	36.26***	0.27
	Intergenerational exchanges	1	-0.09	0.01	42.47***	0.92
	Exchange balance	1	-0.22	0.03	75.42***	0.80
Preferred living arrangements	Intercept	1	2.03	0.38	29.29***	.
	Money management (R)	1	-0.37	0.10	13.02***	0.69
	Meal preparation (R)	1	-0.49	0.08	37.82***	0.61
	Making beds (R)	1	-0.45	0.19	5.56*	0.64
	Living expenses (G)	1	0.41	0.16	6.49*	1.50
	Intergenerational exchanges	1	-0.13	0.02	65.50***	0.88
	Exchange balance	1	-0.14	0.02	61.28***	0.87
Future intentions	Intercept	1	-0.80	0.33	5.75*	.
	Meal preparation (R)	1	-0.23	0.10	5.54*	0.79
	Transportation (R)	1	-0.34	0.14	6.04*	0.71
	Living expenses (G)	1	0.48	0.13	13.86***	1.62
	Intergenerational exchanges	1	-0.09	0.02	30.08***	0.91
	Exchange balance	1	-0.05	0.02	9.01**	0.94

(R): Help Received from children, (G): Help Given to children
*$p < .05$ **$p < .01$ ***$p < .001$

The final model is as follows:

$$X_{\text{current living arrangements}} = 4.90 - 0.26X_{4R} - 0.98X_{7R} - 1.31X_{5G}$$

The hypothesis that family reciprocal care significantly influences elderly living arrangements was significantly supported by assistance when ill ($\chi^2 = 5.95$, $p < .05$) and meal preparation in help received ($\chi^2 = 77.89$, $p < .001$), and cleaning/laundering in help

given ($\chi^2 = 36.26$, p < .001). The elderly living with children were more likely to receive help in assistance when ill and in meal preparation, but to give the help in cleaning and laundering. They were about 3.7 times more likely to give help in cleaning and laundering (OR=0.27) and about 2.7 times more likely to receive help in meal preparation (OR= 0.37) than the elderly living alone or with a spouse only. The elderly living with children were receiving significantly more help than the elderly living alone or with a spouse only ($\chi^2 = 42.47$, p < .001). They also had a significantly unbalanced state in intergenerational reciprocal care ($\chi^2 = 75.42$, p < .001). That is, the elderly living alone or with spouse only had more balance in the help received from and the help given to their children. Therefore, the social exchange theory, which explains the balance in exchanging resources between two persons, did not appropriately fit Korean elderly living with children.

H₂: Family reciprocal care significantly influences preferred living arrangements of the elderly.

Through the logistic regression procedure, meal preparation in help received was added as a variable at the first step, and then money management and assistance when ill were entered into the model. After living expenses in help given was entered, assistance when ill in help received was removed from the model due to the insignificant value of chi-square. Making beds in help received was the last variable added to the model. (Appendix C-2)

The final model equation is as follows:

$$X_{\text{preferred living arrangements}} = 2.03 - 0.37X_{2R} - 0.49X_{7R} - 0.45X_{8R} + 0.41X_{3G}$$

The hypothesis that family reciprocal care significantly influences preferred living arrangements of the elderly was significantly supported by findings related to money management ($\chi^2 = 13.02$, $\underline{p} < .001$), meal preparation ($\chi^2 = 37.82$, $\underline{p} < .001$), and making beds ($\chi^2 = 5.56$, $\underline{p} < .05$) in help received, and living expenses in help given ($\chi^2 = 6.49$, $\underline{p} < .05$). The elderly who preferred to live with children were more likely to receive help in money management, meal preparation, and making beds, but less likely to give help in living expenses. Compared to the result that elderly living arrangements were mainly focused in the help given and received in housework, elderly preferences in living arrangements were decided by the help given in living expenses and the help received in money management as well as by the help in housework such as meal preparation and making beds. That is, financial support between generations is an important factor in deciding of preferred living arrangements.

The elderly who preferred to live with children received significantly more help than the elderly living alone or with a spouse only ($\chi^2 = 65.50$, $\underline{p} < .001$). They also had a significantly unbalanced state in intergenerational reciprocal care ($\chi^2 = 61.28$, $\underline{p} < .001$).

H₃: Family reciprocal care significantly influences elderly intentions to change their living arrangements.

In the stepwise procedure, living expenses in help given was added as a variable at the first step. It was followed by meal preparation and transportation in help received (Appendix C-3). The final model equation was formed as follows:

$$X_{\text{intentions to change living arrangements}} = -0.80 - 0.23X_{7R} - 0.34X_{9R} + 0.48X_{3G}$$

The hypothesis that family reciprocal care significantly influences elderly intentions to change their living arrangements was significantly supported by findings related to meal preparation ($\chi^2 = 5.54$, $p < .05$) and transportation in help received ($\chi^2 = 6.04$, $p < .05$), and living expenses in help given ($\chi^2 = 13.86$, $p < .001$). The elderly who maintain their living arrangements were receiving more help from children in meal preparation and in transportation and giving less help to the children in living expenses than the elderly who intend to change their living arrangements in the near future. This result shows that the elderly who are personally self-sufficient and who are financially supporting for their children have a greater possibility to change their living arrangements.

The elderly who intend to maintain their living arrangements significantly received more help from their children than the elderly changing their living arrangements ($\chi^2 = 30.08$, $p < .001$). They also had a significantly less balanced state in intergenerational reciprocal care ($\chi^2 = 9.01$, $p < .01$).

Environmental Support

A stepwise logistic regression was conducted to analyze the effects of the propinquity of the facilities on elderly living arrangements (Table 20). Each variable was labeled as follows: X_1 (senior center), X_2 (hospital), X_3 (pharmacy), and X_4 (sports facility), X_5 (educational facility), X_6 (religious facility), X_7 (bank), X_8 (arcade area), X_9 (traditional market), X_{10} (green tract of land), X_{11} (entertainment facility), X_{12} (restaurants), X_{13} (hair salon), X_{14} (public bath), X_{15} (public office), and X_{16} (public transportation).

Table 20. Logistic Regression of Elderly Living Arrangements on Environmental Support

Living Arrangements	Facilities	DF	Parameter Estimates	Standard Error	χ^2	OR
Current living arrangements	Intercept	1	-2.89	0.63	21.23***	.
	Traditional market	1	0.23	0.07	10.99***	1.26
	Restaurants	1	0.19	0.07	7.97**	1.21
	Public offices	1	0.33	0.13	6.48*	1.40
Preferred living arrangements	Intercept	1	-1.83	0.55	11.23***	.
	Entertainment facility	1	0.23	0.07	11.15***	1.26
	Public offices	1	0.34	0.13	7.45**	1.41
Future intentions to change living arrangements	Intercept	1	-1.73	0.22	62.60***	.
	Sports/health Facility	1	0.23	0.08	8.98**	1.26

$p < .05$ **$p < .01$ ***$p < .001$

H_4: The propinquity of the elderly environmental support significantly influences elderly living arrangements.

In the stepwise procedure, the traditional market was controlled at the first step, followed by restaurants and public offices in sequence (Appendix D-1). The final equation is as follows:

$$X_{\text{current living arrangements}} = -2.89 + 0.23X_9 + 0.19X_{12} + 0.33X_{15}$$

The hypothesis that the propinquity of elderly environmental support influences elderly living arrangements was significantly supported by findings related to traditional markets ($\chi^2 = 10.99$, $p < .001$), restaurants ($\chi^2 = 7.97$, $p < .01$), and public offices ($\chi^2 = 6.48$, $p < .05$). The elderly living alone or with a spouse only were more likely to live close to traditional markets, restaurants and public offices. They were 1.4 times more likely to live close to public offices than the elderly living with children ($OR=1.40$).

These results were similar to the study of Byun (1994), in which she found that the

elderly living with children were living at a greater distance from traditional markets, banks and post offices. This reveals that the elderly living with children usually do not go outside to purchase personal items, to eat foods, or to meet somebody since the adult children arrange most of the daily tasks for them. As Lee and Chang (1991), and Thompson and Krause (1998) pointed out, environmental support was more important to the elderly who live alone or with a spouse only since they have less support from their children. Korean elderly living alone or elderly couples were more focused on shopping for their personal interests such as in traditional markets and on the convenient arrangements for daily tasks such as restaurants and public offices.

H_5: The propinquity of the elderly environmental support significantly influences preferred living arrangements of the elderly.

At the first step, entertainment facility was entered as a variable, and then public office was added to the analysis (Appendix D-2). The final equation is as follows:

$$X_{\text{preferred living arrangements}} = -1.83 + 0.23X_{11} + 0.34X_{15}$$

The hypothesis that the propinquity of the elderly environmental support influences preferred living arrangements of the elderly was significantly supported by entertainment facilities ($\chi^2 = 11.15$, $p < .001$) and public offices ($\chi^2 = 7.45$, $p < .01$). The elderly who preferred to live alone lived significantly close to entertainment facilities and public offices than the elderly who preferred to live with children. This implies that the elderly who prefer to live alone are more interested in and have more resources or competence to enjoy the activities in entertainment facilities such as better health, younger age, financial self-support or higher education.

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H$_6$: The propinquity of the elderly environmental support significantly influences elderly intentions to change their current living arrangements.

Only sports and health facility were entered into the analysis as a variable. The final equation is as follows:

$$X_{\text{future intentions}} = -1.73 + 0.23X_4$$

The hypothesis that the propinquity of the elderly environmental support influences elderly intentions to change their living arrangements was significantly supported only by sports and health facilities ($\chi^2 = 8.98$, $p < .01$). The elderly changing their living arrangements in the near future were about 1.3 times more likely to live close to sports and health facilities than the elderly maintaining their living arrangements ($\underline{OR}=1.26$). Compared to the result that Korean elderly seldom use and live far from sports and health facilities, this result reflects that they were more interested in their health and leisure than the elderly maintaining their living arrangements.

Summary and Conclusions

The purpose of this study was to examine the effects of intergenerational reciprocal care and the propinquity of neighborhood facilities on elderly living arrangements.

Major findings and conclusions are as follows:

The elderly living with children receive more help in meal preparation and in assistance when ill, but give more help in cleaning and laundering. In addition to help received from children in housework, more help received in money management and less help given in living expenses distinguish the elderly who prefer to live with children from

the elderly who prefer to live alone. That is, while receiving and giving help in housework is the significant factor in the current coresidence living arrangements, the financial support between generations is important in deciding of preferred living arrangements. The important determinants that make the elderly maintain their living arrangements are more help received in meal preparation and transportation and less help given in living expenses. That is, the elderly who are personally self-sufficient and who are financially supporting for their children have a greater possibility to change their living arrangements. Although the elderly who live with or who prefer to live with children are having more interaction in help received and given with their children, they receive more help than they give help to their children and have also an unbalanced state in the intergenerational support exchanges. These results imply that the effects of intergenerational supports on elderly living arrangements are also influenced by the elderly socio-demographic characteristics. The elderly who have lower health status or lower financial resources could receive more help from their children. Female elderly who are likely to live with children might give more help in housework.

Environmental support was more important to the elderly who live alone or with a spouse only since they have less support from their children. They are more focused on pursuing their personal interests in traditional markets and on convenient arrangements for daily tasks through closely located restaurants and public offices. On the other hand, the elderly who prefer to live alone live close to entertainment facilities, and the elderly who plan to change their living arrangements in the near future live close to sports and health facilities. That is, they are interested in and have more resources such as higher education, financial self-support, or housing ownership so that they could have easier

access in leisure than the elderly who prefer to live with children or maintain their living arrangements.

Implications

The results of this study show that it is needed to accommodate the elderly with facilities nearby enabling them to spend their leisure time, pursue for their personal interests, participate in social gatherings or arrange daily tasks. The formal services in local communities for daily tasks and health care, or for entertainment and education could help the elderly maintain physically independent and socially active. In addition, it is necessary to give the elderly enough information about the facilities and services that they might desire to use. Each area city office could distribute those information through news letters and worksheets, or senior center in each community could prepare a regular educational program.

This study implies that the elderly socio-demographic status could affect the value of support networks within their living arrangements. For further study, the relationship of the elderly socio-demographic characteristics and intergenerational reciprocal care or the access to neighborhood facilities should be considered for understanding how support networks reduce the lack of elderly individual competence for independent living. In addition, this study did not examine the effects of the elderly needs for neighborhood facilities in their living arrangements. The elderly needs for facilities as well as the frequency of use should be investigated to understand the relationship between elderly needs and the propinquity of the neighborhood facilities.

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Appendix C. Stepwise Procedure in Intergenerational Reciprocal Care

1. Elderly Living Arrangements

Variables	Intercept (Step 0)	Variable 7 (Step 1)	Variable 15 (Step 2)	Variable 4 (Step 3)
1. Advising	6.42*	0.78	1.01	0.34
2. Money management	30.11***	5.62*	2.80	1.44
3. Living expenses	64.09***	11.67***	4.23*	1.86
4. Assistance when ill	41.18***	7.85**	6.14*	Added
5. Cleaning	97.82***	0.73	0.00	0.38
6. Looking after house	74.72***	7.66**	3.96*	2.22
7. Meal preparation	146.13***	Added	Added	Added
8. Making beds	20.63***	0.22	0.22	0.02
9. Transportation	36.70***	0.27	0.32	0.02
10. Shopping	34.00***	2.62	0.77	0.10
11. Advising	0.85	0.06	1.29	1.55
12. Money management	2.67	5.03*	0.76	0.26
13. Living expenses	2.42	0.04	1.45	0.82
14. Assistance when ill	8.15**	10.23**	0.00	0.64
15. Cleaning	75.81***	74.04***	Added	Added
16. Looking after house	44.70***	44.11***	1.34	1.06
17. Meal preparation	39.86***	43.53***	3.34	2.20
18. Making beds	11.69***	27.25***	0.99	0.94
19. Transportation	1.43	4.20*	0.53	0.47
20. Shopping	2.12	4.18*	0.10	0.17

1 to 10: Help received from children, 11 to 20: Help given to children

*$p < .05$ **$p < .01$ ***$p < .001$

2. Preferred Living Arrangements

Variables	Intercept (Step 0)	Var. 7 (Step 1)	Var. 2 (Step 2)	Var. 4[#] (Step 3)	Var. 13 (Step 4)	Var. 8 (Step 5)
1. Advising	2.48	0.06	0.04	0.43	0.15	0.02
2. Money management	39.00***	16.35***	Added	Added	Added	Added
3. Living expenses	47.44***	12.39***	4.77*	2.78	1.25	2.93
4. Assistance when ill	37.02***	10.93***	6.06*	Added	Added	3.55
5. Cleaning	60.96***	0.09	0.10	0.06	0.21	0.02
6. Looking after house	48.08***	4.35*	4.91*	3.08	2.98	3.61
7. Meal preparation	82.20***	Added	Added	Added	Added	Added
8. Making beds	27.37***	6.21*	5.37*	4.05*	4.85*	Added
9. Transportation	40.53***	7.15**	3.43	1.74	2.39	3.25
10. Shopping	22.06***	1.88	0.01	0.09	0.03	0.11
11. Advising	4.80*	2.15	1.61	2.43	1.15	0.73
12. Money management	1.11	1.55	2.82	3.95*	1.18	0.61
13. Living expenses	12.13***	6.96**	6.06*	5.24*	Added	Added
14. Assistance when ill	0.00	0.05	0.41	2.37	1.52	0.43
15. Cleaning	6.25*	2.27	0.84	0.74	1.05	1.39
16. Looking after house	0.20	0.34	1.09	1.56	1.30	0.88
17. Meal preparation	0.05	0.01	0.23	0.15	0.01	0.06
18. Making beds	0.23	0.15	0.01	0.00	0.17	0.01
19. Transportation	2.55	1.50	1.43	1.56	0.80	1.61
20. Shopping	0.03	0.00	0.44	0.63	0.41	0.37

1 to 10: Help received from children, 11 to 20: Help given to children

*$p < .05$ **$p < .01$ ***$p < .001$

#: Variable 4 was removed after variable 13 was entered to the model due to the insignificant value of chi-square.

3. Future Intentions to Change Living Arrangements

Variables	Intercept (Step 0)	Variable 13 (Step 1)	Variable 7 (Step 2)	Variable 9 (Step 3)
1. Advising	0.02	0.16	0.08	0.40
2. Money management	4.43*	3.33	0.35	0.00
3. Living expenses	14.24***	7.53**	1.08	0.47
4. Assistance when ill	3.31	1.70	0.02	0.59
5. Cleaning	18.60***	14.66***	0.95	0.68
6. Looking after house	13.44***	11.66***	2.43	1.30
7. Meal preparation	18.71***	15.79***	Added	Added
8. Making beds	3.75	3.99*	0.52	0.17
9. Transportation	15.81***	15.52***	6.28*	Added
10. Shopping	9.64**	9.11**	3.07	0.60
11. Advising	6.29*	2.56	2.00	2.25
12. Money management	4.21*	0.01	0.19	0.88
13. Living expenses	19.51***	Added	Added	Added
14. Assistance when ill	2.20	1.05	1.66	1.91
15. Cleaning	0.54	0.26	1.29	1.26
16. Looking after house	1.37	0.94	2.32	2.06
17. Meal preparation	3.93*	2.23	3.23	3.36
18. Making beds	3.00	0.64	0.24	0.30
19. Transportation	6.42*	1.64	1.51	1.54
20. Shopping	0.92	0.36	0.44	0.70

1 to 10: Help received from children, 11 to 20: Help given to children

*$p < .05$ **$p < .01$ ***$p < .001$

Appendix D. Stepwise Procedure in Environmental Support for the Elderly

1. Elderly Living Arrangements

Variables	Intercept (Step 0)	Variable 9 (Step 1)	Variable 12 (Step 2)	Variable 15 (Step 3)
1. Senior center	0.79	0.42	0.03	0.00
2. Hospital	0.10	0.01	0.05	0.06
3. Pharmacy	1.19	0.90	0.22	0.01
4. Sports facility	8.06**	5.70*	3.27	1.85
5. Educational	6.62*	3.44	1.16	0.44
6. Religious	2.37	1.95	0.77	0.45
7. Banking	8.57**	6.16*	2.84	0.43
8. Arcade area	9.42**	6.21*	3.83	2.51
9. Traditional market	14.54***	Added	Added	Added
10. Green tract of land	3.16	2.28	1.14	0.31
11. Entertainment	7.48**	4.99*	1.66	0.67
12. Restaurants	10.42**	9.77**	Added	Added
13. Hair salon	2.03	0.77	0.08	0.01
14. Public bath	6.30*	5.55*	3.21	1.65
15. Public offices	11.40***	8.37**	6.75**	Added
16. Public transportation	7.69**	5.81*	3.62	1.40

*$p < .05$ **$p < .01$ ***$p < .001$

2. Preferred Living Arrangements

Variables	Intercept (Step 0)	Variable 11 (Step 1)	Variable 15 (Step 2)
1. Senior center	0.57	0.01	0.01
2. Hospital	0.00	0.21	0.22
3. Pharmacy	0.86	0.11	0.00
4. Sports facility	7.34**	4.78*	2.92
5. Educational	4.08*	1.28	0.46
6. Religious	1.43	0.12	0.03
7. Banking	11.61***	6.00*	2.18
8. Arcade area	2.51	0.58	0.07
9. Traditional market	7.42**	4.79*	3.49
10. Green tract of land	5.22*	1.50	0.55
11. Entertainment	16.28***	Added	Added
12. Restaurants	9.51**	3.54	3.12
13. Hair salon	0.24	0.10	0.59
14. Public bath	0.01	0.47	2.01
15. Public offices	12.76***	7.80**	Added
16. Public transportation	6.67**	2.14	0.56

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

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3. Future Intentions to Change Living Arrangements

Variables	Intercept (Step 0)	Variable 4 (Step 1)
1. Senior center	0.22	0.06
2. Hospital	0.53	0.57
3. Pharmacy	0.12	0.80
4. Sports facility	9.24**	Added
5. Educational	2.67	0.02
6. Religious	0.08	0.41
7. Banking	2.21	0.69
8. Arcade area	1.53	0.90
9. Traditional market	2.03	1.08
10. Green tract of land	2.58	1.11
11. Entertainment	2.84	1.61
12. Restaurants	1.84	0.61
13. Hair salon	4.62*	3.46
14. Public bath	3.66	2.96
15. Public offices	5.66*	3.45
16. Public transportation	0.76	0.02

$*p < .05$ $**p < .01$ $***p < .001$

CHAPTER VII. CONCLUSIONS AND IMPLICATIONS

Conclusions

The purpose of this study was to investigate the effects of elderly characteristics, attitudes, family reciprocal care and environmental support on elderly living arrangements, and to reveal the differences of living arrangements, preferred living arrangements and the intentions to change living arrangements in the near future. Lawton's person-environment theory, which explains an individual adaptation as the result of a combination of individual competence, perception and environmental press, was applied to this study to evaluate basic elderly living arrangements in Korea.

Previous studies of the living arrangements of the elderly have been limited to investigation the elderly socio-demographic status such as age, gender, marital status, or education as they affect living arrangements. That is, researchers have not seen the elderly as decision-makers in their living arrangements, but as passive followers of their own life events. This study included various support systems and elderly attitudes toward family obligations, age segregation, privacy and independence as well as elderly socio-demographic characteristics in its attempt to explain elderly living arrangements.

Data were collected in five areas of Seoul, the capital city of Korea, which were chosen based on housing ownership and the ratio of the elderly to the population. A total of 357 elderly consisting of 191 elderly living with children and 166 elderly living alone

or with spouse only participated in face-to-face interviews for this study. For data analysis, descriptive statistics including frequencies and percentages, means and standard deviations, and the Pearson product moment correlation coefficients were used to explain general characteristics of Korean elderly. With the SAS (Statistical Analysis System) program, a stepwise logistic regression was performed to examine effects of the elderly characteristics, attitudes and support networks on elderly living arrangements. In addition, cross-tabulated data analysis was applied to investigate the relationships among the living arrangements, preferred living arrangements and intentions to change their living arrangements in the near future, using chi-square and odd-ratio in two-way and three-way associations.

Descriptive statistics indicate that more Korean elderly prefer to live alone than are actually living alone and that they want to maintain their current living arrangements. In terms of attitudes, they have traditional values that the children should take care of their older parents even though there is a recognition of the need of privacy and independence. Korean elderly most frequently receive financial help from the children and give psychological help to them. They are likely to receive more help from the children than they give to them, and the reciprocal care between older parents and adult children is therefore in an unbalanced state. Regarding environmental support networks, Korean elderly are frequently using public baths, public transportation, and arcade areas, but are seldom using entertainment, sports/health and educational facilities. They are using the facilities located close to where they are living.

The stepwise logistic regression analysis revealed that the elderly having a spouse, no unmarried child, and a higher socio-economic status including a higher education

level, the ability for self-support, and good health are likely to live independently. They generally have negative attitudes toward family obligations, but show positive attitudes toward age segregation and independence. Compared with the elderly living alone, the elderly living with children receive more help in meal preparation and assistance when ill, but give more help in cleaning and laundering for their children. Even though they have more interactions with their children, they receive more help from the children than they give to them and have an unbalanced state in terms of intergenerational reciprocal care. On the other hand, the environmental support is more important to the elderly living alone since they have less support from their children. They have good propinquity to traditional markets, restaurants and public offices. Those facilities probably assist them in pursuing their personal interests, for gathering socially or making arrangements for daily tasks.

Korean elderly decide on their future living arrangements based upon family conditions such as marital status or having an unmarried child, whereas they decide on their preferred living arrangements based on their individual competence including age or education level. The elderly who plan to change their living arrangements in the near future have positive attitudes toward independence. Financial support between generations is an important factor in deciding of preferred living arrangements. The elderly who have no problems with doing housework and mobility, which means self-sufficient and who are financially supporting for their children have a greater possibility of changing their living arrangements. The elderly who prefer to live alone or plan to change their living arrangements in the near future are interested in and have more resources to devote to leisure activities at entertainment and sports/health facilities.

The analysis of the relationships among the living arrangements, preferred living arrangements and intentions to change living arrangements show that most of the Korean elderly continue their living arrangement if it is congruent with their preferred living arrangements. If not, they intend to change their living arrangements to respond to their own choices. This study showed that the elderly living arrangements are the results of combinations of individual socio-demographic status, attitudes, and environmental support as Lawton stated in the person-environment theory.

Based on the results of this study, researchers in gerontology, sociology or housing areas will be able to understand the factors that affect the Korean elderly living arrangements, to predict their decision-making behavior in the choices of living arrangements, and furthermore are enabled to suggest the service programs encouraging the elderly to live independently. First, the elderly demographic status such as age, gender, number of children and of sons are not significant determinants in the living arrangements as Korean society moves away from the patriarchal family system. If the elderly do not have a spouse and unmarried children, the choices of living arrangements are completely dependent on individual competence to live independently such as one's ability for self-support, health status, and education level. Secondly, Korean elderly themselves also consider the ability of independence as the most important factor in their living arrangements, their preferred living arrangements and their future living arrangements. That is, it is necessary to provide effective services assisting the lack of socio-economic ability among the elderly so that they could be physically and financially independent even though they are living with their children. Thirdly, the elderly living alone have more interactions with environmental support networks for their daily tasks

since they do not receive much help from their children. It is needed to accommodate the elderly with facilities nearby enabling them to spend their leisure time, pursue their personal interests, participate in social gatherings, or conveniently arrange daily tasks. The elderly living with children are more dependent on support from their children and give a little support back to the children. But it is necessary to naturally induce them to use and to have access to the neighborhood facilities, as the demands of the elderly living with their children are difficult to solve by only the care-giving children. In addition, it is also necessary to effectively provide them with enough information so they can access facilities whenever they desire it.

Implications for Korean Elderly

This study explored the effects of elderly characteristics, attitudes and support networks on their living arrangements in Korea. The results revealed, as Lawton stated in his person-environment theory, the elderly living arrangements reflect the combinations of their individual characteristics, attitudes, and family and environmental support networks.

Most of the Korean elderly want to continue to grow old in the community that they are living in and do not favor moving to another living arrangement. Compared with the elderly living alone or with a spouse only who are more dependent on support from neighborhood facilities, the elderly living with children are more dependent on support from their children since their socio-economic and health status is lower. The Korean elderly persist in the traditional value of children's responsibility for the aged parents and consider independence as the most important factor for their future living arrangements.

This study implies several suggestions to social workers, policy makers, and service and housing planners. First, it is necessary to modify the government policies for the elderly. Historically, Korean social welfare systems have been limited to the maintenance of the minimum life level assistance for the elderly who do not have caregiver or who are under the absolute poverty line. It is due to other national economic and political issues such as the IMF (International Monetary Fund) and military expenditures. Increasing elderly population and democratic conditions in Korean society are demanding more realistic support services for the older people. Access to public assistance such as home care giving, home-delivered meals, and reverse home mortgages would satisfy the broader needs of the elderly population. The practical policies needed could include tax reduction or exemption, subsidized housing, none of which have ever been available in Korea, and expansion of community care services to encourage and develop family support of aging parents. Second, the supporting facilities including various types of services should be prepared based on each local community. The formal services in local communities for daily tasks and health care, or for entertainment and education, which Korean elderly are reluctant to utilize due to the generation gap, could help the elderly maintain physically independent and socially active. In addition, it is necessary to provide space for the elderly when planning the shared space for the local residents. That means not only providing the space but including the service programs in it for the elderly. The programs need to be flexible to provide the appropriate services according to the transition of the aging process or elderly personal situations. Furthermore, giving the elderly residents an opportunity to participate in community activities could be meaningful in utilizing much of their remaining productive years and

avoiding elderly social isolation. Third, educational programs are needed to give the elderly and their children information about various services and alternatives in living arrangements provided in the local community, and their roles in the changing family and societal situations. They could make appropriate decisions regarding their future living arrangements and in other activities for their later lives. The education for the elderly can be provided in formal and informal seminars, with a regular curriculum in local senior centers and other institutions, or booklets and newsletters distributed by local area offices.

Implications for Research

This study was based on an exploration of the elderly of Seoul, the capital of Korea, living with children or living alone/with spouse only, and who have a child in Korea. For further study, other types of living arrangements with which this study did not deal such as institutionalized elderly or the elderly living in the retirement community should be studied since those elderly groups are increasing across the Korean population. Study of the non-traditional elderly group without children is suggested to heighten researchers' concern about their social welfare in the future. Longitudinal studies are needed to examine the transitional process of elderly living arrangements and the actual commitments to their preferred living arrangements. In addition, the investigations of the elderly living in urban and rural, or residential and commercial areas also should be performed to understand the effects of geographical location that might be one of the significant factors on their living arrangements. Lastly, this study investigated the separated effect of each independent variable group, which is elderly characteristics, attitudes or support networks on the living arrangements of Korean elderly. This study

did not reveal how those three independent variable groups are combined together although some of the results show that there might be significant associations among elderly characteristics, attitudes, and support networks. A study that considers all three variables as one group is needed to understand how support networks could change elderly attitudes toward social norms, how support networks could compensate for the decrease of elderly socio-economic status, or how the elderly characteristics change elderly attitudes.

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APPENDIX E:

INTERVIEW QUESTIONNAIRE (ENGLISH)

Interview Questionnaire

1. What is your birth date: /   /   /

       If born at or before 06 /01 /1934, go to # 2.

       If born after 06/01/1934, the elder person is not the subject of this study.

2. Do you have a living child (regardless of their gender or living with them)?

       If the elder person has at least one child, go to # 3

       If the elder person has no living child, he (she) is not the subject of this study.

3. What is your living arrangement?

       If living with children, go to # 4.

       If living alone (or with spouse only), go to # 4.

       Any other living arrangements: the elder person is not the subject of this study.

4. How long have you lived (with children, alone, or with your spouse)?

       If more than three months, go to next page.

       If less than three months, the elder person is not the subject of this study.

Questions to measure individual characteristics of the elderly

The following is about the **Elderly Demographic Status**.

Age:

Gender: M   F

Marital Status: Married   Unmarried

Education (years):

```
 0   1   2   3   4   5   6   7   8   9   10   11   12   13   14   15   16 & over
 |---|---------------------------|--------------|-------------------|---------------------------|
None      Elementary            Middle        High              College
```

The following is about the **Living Children of the Elderly**.

    Number of living children:

    Number of sons:

    Do you have at least one unmarried child?   Yes   No

Economic Status:

    Do you own your dwelling?   Yes   No

    Are you receiving financial support for your living from your children?

            Yes   No

Health Status:

Do you feel difficulty in doing any of the following?

( )   Bathing or Showering

( )   Dressing

( )   Eating

( )   Transferring (getting in or out of a chair or bed)

( )   Walking

( )   Using/getting to a toilet

( )   Meal preparation

( )   Shopping for personal items

( )   Managing money (budget, taxes, paying bills)

( )   Using telephone

( )   Laundry, ironing, sewing

( )   Household cleaning

( )   Caring for self and taking medicine during minor illness

( )   Moving around outside

( )   Going places outside of walking distance

Questions to measure the elderly attitudes and preferences

Attitudes toward family obligation

I think that an adult child should be responsible for the care of her/his mother or father when they become too old to care for themselves.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly Disagree   Strongly agree

Attitudes toward age segregation

The children are apt to be so different when they grow up that it is hard to share day-to-day living with them in the same household.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly Disagree   Strongly agree

Preferences for privacy

I need to do what I want without outside interference.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly Disagree   Strongly agree

Preferences for independence

I would like to live on my own until I cannot manage it any longer.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly Disagree   Strongly agree

Questions to measure support networks for the elderly

Index   1: No aid
                 2: Aid very little
                 3: Aid sometimes
                 4: Aid frequently
                 5: Aid always

Intergenerational Reciprocal Care

Children sometimes help their parents with different things. Please tell me if you have received help with any of the following activities from a child in the past three months.

	Help Received				
Advising important decisions	1	2	3	4	5
Money management	1	2	3	4	5
Living expenses/pocket money	1	2	3	4	5
Assistance when ill	1	2	3	4	5
Cleaning & laundering	1	2	3	4	5
Looking after house	1	2	3	4	5
Meal preparation	1	2	3	4	5
Making beds	1	2	3	4	5
Transportation	1	2	3	4	5
Shopping	1	2	3	4	5

Parents sometimes help their children with different things. Please tell me if you have given help with any of the following activities to the your child in the past three months.

	Help Given				
Advising important decisions	1	2	3	4	5
Money management	1	2	3	4	5
Living expenses/pocket money	1	2	3	4	5
Assistance when ill	1	2	3	4	5
Cleaning & laundering	1	2	3	4	5
Looking after house & baby sitting	1	2	3	4	5
Meal preparation	1	2	3	4	5
Making beds	1	2	3	4	5
Transportation	1	2	3	4	5
Shopping	1	2	3	4	5

Environmental Supports

Index for assessing the environmental support for the elderly persons:

Frequency of use	1: No use 2: Once a year or less 3: Several times a year 4: Once a month or more 5: Once a week or more
Propinquity	1: Do not know or no facility 2: 15-30 minutes by transportation 3: Within 15 minutes by transportation 4: 15-30 minutes by walking 5: Within 15 minutes by walking
Senior center	Any official places the elderly get together
Sports/health facility	Health club, swimming pool, tennis court, bowling, golf, aerobic
Hobbies/educational facility	*Paduk house,* calligraphy, cultural center, library
Religious facility	Church, cathedral, temple
Banking facility	Bank, credit union
Green tract of land	Park, garden, spa
Entertainment facility	Theater, karaoke, video rent, electronic games
Public offices	Post office, police station, phone company, area office
Public transportation systems	Bus stops, subway station, taxi stops

	Frequency of Use					Propinquity				
Senior center	1	2	3	4	5	1	2	3	4	5
Medical services -Hospital, herb clinic -Pharmacy	 1 1	 2 2	 3 3	 4 4	 5 5	 1 1	 2 2	 3 3	 4 4	 5 5
Sports/health facility	1	2	3	4	5	1	2	3	4	5
Hobbies/educational facility	1	2	3	4	5	1	2	3	4	5
Religious facility	1	2	3	4	5	1	2	3	4	5
Banking facility	1	2	3	4	5	1	2	3	4	5
Purchasing facility -Arcade area -Traditional market	 1 1	 2 2	 3 3	 4 4	 5 5	 1 1	 2 2	 3 3	 4 4	 5 5
Green tract of land	1	2	3	4	5	1	2	3	4	5
Entertainment facility	1	2	3	4	5	1	2	3	4	5
Restaurants	1	2	3	4	5	1	2	3	4	5
Sanitary facility -Hair salon -Public bath/sauna	 1 1	 2 2	 3 3	 4 4	 5 5	 1 1	 2 2	 3 3	 4 4	 5 5
Public offices	1	2	3	4	5	1	2	3	4	5
Public transportation systems	1	2	3	4	5	1	2	3	4	5

Questions about Elderly Living Arrangements

- **Current living arrangement**:

  Living with children   Living alone (or with spouse only)

- **Preferred living arrangement**:

  Given your current circumstances, what living arrangement would you prefer?

- **Future intentions to change current living arrangement**

  To the elderly living alone:

  Do you have a plan to live with your children in the future?   Yes   No

  To the elderly living with children:

  Do you have a plan to live alone in the future?   Yes   No

APPENDIX F:

INTERVIEW QUESTIONNAIRE (KOREAN)

<div align="center">

질문 용지

</div>

1. 생년월일이 어떻게 되십니까? :   /   /   /

    1934년 6월 1일 혹은 그 이전에 출생하셨으면 2번으로

    1934년 6월 1일 이후에 출생하셨으면 본 연구의 대상자가 아닙니다.

2. 현재 한국에 살고 있는 자녀분이 있습니까?

    적어도 한명의 자녀가 있다면 3번으로

    자녀가 없다면 본 연구의 대상자가 아닙니다.

3. 현재 거주형태가 어떻습니까?

    자녀와 같이 살고 있다면 4번으로

    혼자 사시거나 배우자와만 살고 있다면 4번으로

    그외 다른 거주형태: 본 연구의 대상자가 아닙니다.

4. 현재 거주형태로 생활하신지 얼마나 되었습니까?

    3개월 이상 되었으면 다음 페이지로

    3개월이 안되었으면 본 연구의 대상자가 아닙니다.

노인들의 개인적 특성을 측정하기위한 질문들

다음은 노인분들의 **인구학적 특성**에 관한 질문입니다.

성별: 남   여

배우자: 유   무

교육정도 (년수):

```
   0  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16이상
   |--|-------------|--------|---------|---------------|
   무      초등학교      중학교      고등학교      대학교이상
```


다음은 노인분들의 **현재 자녀**들에 관한 질문입니다.

슬하에 자녀분은 몇 명: (   )명

아들과 딸은 각각 몇 명 : 아들 (   )명   딸 (   )명

미혼자녀는 모두 몇 명: (   )명

다음은 노인분들의 **경제적 상황**에 관한 질문입니다.

현재 거주하시는 주택은 할아버지 (혹은 할머니)소유입니까?

　　　　예　　　　　　　　아니오

자녀들로부터 경제적인 지원을 받고 계십니까?

　　　　예　　　　　　　　아니오

다음은 노인분들의 **건강상태**에 관한 질문입니다.

다음과 같은 동작을 혼자 하실 때 어려움을 느끼십니까?

(   ) 목욕이나 샤워

(   ) 옷입기/신발신기 (단추잠그기, 신발끈 묶기등등)

(   ) 식사하기 (식사하는 동작을 말함)

(   ) 의자에서 일어나고 앉기/잠자리에 들어가고 나오기

(   ) 걷기

(   ) 화장실 사용하기 (변기사용, 휴지사용등)

(   ) 식사준비 (다른이가 해줄 경우, 혼자 할수 있는지 질문)

(   ) 개인용품 구매를 위한 쇼핑

(   ) 자금/예산관리 (전화비/관리비 내기, 용돈관리등)

(   ) 전화 걸기

(   ) 빨래, 다림질, 바느질

(   ) 집안 청소

(   ) 자기 건강돌보기/가벼운 질병시 혼자 필요한 약 찾아서 먹기
       (혹은 필요한 약 사먹기)

(   ) 집주변 산책하기

(   ) 가까운 장소로 혼자 외출하기

노인들의 태도와 선호도에 관한 질문

자녀의 **부양책임**에 대한 노인분들의 태도

자녀는 부모가 연로하여 당신의 몸을 돌보기가 어려울 때 부양책임이 있다.

      1   2   3   4   5   6   7   8   9

절대 동의하지 않는다　　　　　　　　　　　　　　　　완전히 동의한다

연령차별에 대한 노인분들의 태도

자녀세대는 나와 너무나 달라 한집에서 매일 생활하기가 어렵다.

      1   2   3   4   5   6   7   8   9

절대 동의하지 않는다　　　　　　　　　　　　　　　　완전히 동의한다

사생활에 대한 선호도

나는 내가 하고자 하는것들을 외부의 간섭없이 하기를 원한다.

      1   2   3   4   5   6   7   8   9

절대 동의하지 않는다　　　　　　　　　　　　　　　　완전히 동의한다

독립생활에 대한 선호도

나는 혼자 사는 것이 더 이상 불가능하지 않는한 내 스스로 생활하고 싶다.

      1   2   3   4   5   6   7   8   9

절대 동의하지 않는다　　　　　　　　　　　　　　　　완전히 동의한다

노인 지원 체계에 관한 질문

세대간 상호지원

지침: 1. 전혀 없다
       2. 어쩌다 한번 있다
       3. 가끔 있다
       4. 자주 있다
       5. 항상 (필요할때마다) 있다

가장 연락이 빈번하고 접촉이 잦은 자녀 한분 (그 자녀의 가족 포함)과의 관계만을 대상으로 하는것입니다. 지난 3개월간 <u>자녀로부터</u> 다음중 어떤 도움을 받으셨습니까?

	도움 **받는** 정도				
중요한 의사결정에 충고	1	2	3	4	5
금전관리/예산관리	1	2	3	4	5
생활비 보조/용돈	1	2	3	4	5
아플 때 간병	1	2	3	4	5
청소와 빨래	1	2	3	4	5
집보기	1	2	3	4	5
식사 준비	1	2	3	4	5
잠자리 준비	1	2	3	4	5
교통수단의 편의보조	1	2	3	4	5
쇼핑 보조	1	2	3	4	5

지난 3개월간 <u>자녀에게</u> 다음중 어떤 도움을 주셨습니까?

	도움 **주는** 정도				
중요한 의사결정에 충고	1	2	3	4	5
금전관리/예산관리	1	2	3	4	5
생활비 보조/용돈	1	2	3	4	5
아플 때 간병	1	2	3	4	5
청소와 빨래	1	2	3	4	5
집보기/손자녀 보기	1	2	3	4	5
식사 준비	1	2	3	4	5
잠자리 준비	1	2	3	4	5
교통수단의 편의보조	1	2	3	4	5
쇼핑 보조	1	2	3	4	5

환경적 지원체계

노인들의 환경지원 항목에 대한 지침

시설 이용 빈도	1. 전혀이용하지 않음
	2. 1년에 한번 정도 (혹은 어쩌다 한번)
	3. 1년에 몇번 정도
	4. 한달에 한번정도
	5. 일주일에 한번정도, 혹은 더 자주 이용
근접성	1. 시설이 없다. 혹은 모른다.
	2. 차로 15-30분 정도거리
	3. 차로 15분 이내의 거리
	4. 걸어서 15-30분 거리
	5. 걸어서 15분 이내
노인정	노인분들이 모이는 공공장소
체육시설	헬스크럽, 수영장, 테니스 코트, 볼링장, 골프장, 에어로빅
취미/교육시설	기원, 서예실, 문화센터, 공공 도서관
종교시설	교회, 성당, 절
금융시설	은행, 상호신용금고, 새마을 금고
녹지대	공원, 식물원, 산책로, 정원, 연못
유흥시설	극장, 가라오케, 비디오 대여점, 전자오락실, 노래방
공공시설	우체국, 경찰서, 전화회사, 동사무소
공공 교통수단	버스정류장, 전철역, 택시정류장

	이용빈도					근접성				
노인정	1	2	3	4	5	1	2	3	4	5
의료시설										
병원, 한의원	1	2	3	4	5	1	2	3	4	5
약국	1	2	3	4	5	1	2	3	4	5
체육/건강 증진시설	1	2	3	4	5	1	2	3	4	5
취미/교육시설	1	2	3	4	5	1	2	3	4	5
종교시설	1	2	3	4	5	1	2	3	4	5
금융시설	1	2	3	4	5	1	2	3	4	5
소비시설										
상가	1	2	3	4	5	1	2	3	4	5
재래시장	1	2	3	4	5	1	2	3	4	5
녹지대	1	2	3	4	5	1	2	3	4	5
유흥시설	1	2	3	4	5	1	2	3	4	5
식당	1	2	3	4	5	1	2	3	4	5
위생시설										
미장원, 이발소	1	2	3	4	5	1	2	3	4	5
목욕탕, 사우나	1	2	3	4	5	1	2	3	4	5
공공기관	1	2	3	4	5	1	2	3	4	5
대중교통수단	1	2	3	4	5	1	2	3	4	5

노인의 거주형태에 대한 질문

현재 거주형태: 자녀와 동거   혼자 (혹은 배우자와만) 생활

선호하는 거주형태:

현재 주어진 상황에서 할아버지 (할머니)께서 가장 선호하시는 거주형태는 어떤것입니까? (예: 자녀와 동거, 혼자 (혹은 배우자와만)생활, 실버타운등 시설주거)

장래 거주형태:

혼자 (혹은 배우자와만)생활하시는 노인을 위한 질문:
        앞으로 자녀분과 같이 사실 계획이 있습니까?   예   아니오

자녀와 같이 사시는 노인을 위한 질문:
        앞으로 혼자사실 계획이 있습니까? 예   아니오

APPENDIX G:

INSTITUTIONAL REVIEW BOARD

(IRB REVIEW FORM)

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

Date: April 12, 1999   IRB #:   HE-99-091

Proposal Title: "ELDERLY LIVING ARRANGEMENTS IN KOREA: ELDERLY
                      CARACTERITSTICS, ATTITUDES, AND SUPPORT NETWORKS"

Principal   Dr. Margaret Weber
Investigator(s):   Minah Lee

Reviewed and
Processed as: Exempt

Approval Status Recommended by Reviewer(s):   Approved

===

Signature:

Carol Olson
_____   ___April 12, 1999___
Carol Olson, Director of University Research Compliance   Date

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any
modification to the research project approved by the IRB must be submitted for approval. Approved projects are
subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review
Board.

VITA

Min-Ah Lee

Candidate for the Degree of

Doctor of Philosophy

Thesis: ELDERLY LIVING ARRANGEMENTS IN KOREA: ELDERLY
CHARACTERSITICS, ATTITUDES, AND SUPPORT NETWORKS

Major Field: Human Environmental Sciences

Biographical:

Personal Data: Born in Pusan, Korea, On October 25, 1969, the daughter of Hun-
Chi and Young-Sil Lee (Park).

Education: Graduated from Sudo women's high school, Seoul, Korea in
February, 1988; received Bachelor of Home Economics degree in Home
Management from The Catholic University, Seoul, Korea in February,
1992; received the Master of Arts degree in Housing from Hanyang
University, Seoul, Korea in February, 1994. Completed the requirements
for the Doctor of Philosophy Degree with a major in Environmental
Design at Oklahoma State University in December, 1999.

Experience: Graduate Assistant, Department of Home Management, Hanyang
University, Seoul, Korea, March, 1993 to February, 1994; Graduate
Assistant, Department of Design, Housing, Merchandising, Oklahoma
State University, Stillwater, U.S., September, 1997 to December, 1997,
May, 1998 to December, 1998, September, 1999 to December, 1999.

Professional Memberships: American Society on Aging, Korean Interior
Design Institute, and Korean Housing Research Association.