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A Study on the Social Support's Moderating Effect for the Elderly's Life Satisfaction*

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Abstract

Purpose - This paper aims to obtain a theoretical understanding for the relationship among the elderly's leisure activity, social support, life satisfaction and mental loneliness in their life. This paper has the purpose to draw policy implications by the course of research and study as well as to find alternatives in enhancing the elderly's psychological well-being in a practical dimension.

Research design, data, and methodology - Data has been collected from 380 elderly persons participating in leisure activities in 10 senior welfare service centers located in the Seoul area. A structured questionnaire sheet was used, and as the main analysis method for hypothesis verification, the hierarchical regression method was used.

Results - Social support is moderating factor for the relationships among the productive leisure activity, life satisfaction and mental loneliness, but does not play the moderating role in the relationships such as consumptive leisure activity, life satisfaction and mental loneliness.

Conclusions - It is necessary to make efforts to provide policies for promoting and expanding the elderly's participation especially in productive leisure activity. And also, an institutional support should be provided for maintaining and expanding a stable social relationship network for the elderly's participation.

Keywords: Productive Leisure Activity, Consumptive Leisure Activity, Mental Loneliness, Social Support Variable.

JEL Classifications: H75, I31, J15, R13.

1. Introduction

1.1. Background and Purpose of Study

Today our country has become to confront the two issues of population structure, i.e., both the low birthrate and the rapidly aging population due to the increase in average life expectancy as resulted from the rapid downfall of birthrate and the development of the scientific and technological development in medicine. The average life expectancy of the people in our country has increased from 62.1 years in

1970 to 79.4 years in 2010, which means that people would live 18 years more when 1970 is taken as the standard point. Such a result implicates that the relative weight taken by the senescence in the overall stages of our life cycle is becoming longer and longer. As such, the issue of rapidly aging population is emerging as an issue of social dimension beyond the level of an individual, and the increased aged population in particular is raising issues on the reinterpretation of the elderly generation's happiness caused by the extended life of the elderly as well as on the life satisfaction during senescent period(Kim et al., 2007).

In other words, with regard to the extended senescent period, the life satisfaction issue for one's successful later years is becoming an important social conversational topic, and as a solution for the modern society's issue on the elderly that will inevitably emerge due to the decline in the elderly's physical, mental and social abilities, the interest in the life satisfaction during the senescent period is increasing

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ever more. In spite of such increase in interest, if we look at the previous studies available with regard to the elderly, they have been focused mostly on the issues of the health, economy, alienation and families of the elderly from a negative view on the elderly (Han & Yoon, 2001).

As for the elderly who have plenty of free time, keeping their continued interaction and ties with others, i.e., the social support will also become more important for enhancing life satisfaction during the senescent period. The reason for this is that the leisure activity of the elderly and the social support is expected to play the very important role of enhancing life satisfaction during the senescent period (Jun & Kim, 2000).

In such a context, this study is intended to be focused on both the positive aspect of life satisfaction and the negative aspect of mental loneliness regarding the status quo of the senescent period while being different from the majority of the previous studies on the elderly. On the other hand, the leisure activity and the social support of the elderly are also intended to be focused on the influence that is exerted on life satisfaction and mental loneliness during the senescent period as well. In the meantime, according to the social support related literature, it is argued that the social support plays the role of moderating the relationship among the leisure activity, life satisfaction and mental loneliness. In other words, it is viewed that the higher the social support, the higher the positive influence of leisure activity exerted upon life satisfaction (Kim, 2014).

Hence, it is intended in this study to research the social support empirically on whether it is playing the moderating role with regard to the relationship among the leisure activity, life satisfaction and mental loneliness when the social support is divided into spouse support, children support and friend support. Throughout this study, it is intended to obtain a theoretical understanding on the relationship among the elderly's leisure activity, social support, life satisfaction and mental loneliness while, together with this, it is also intended to draw policy implications for enhancing the psychological well-being of the elderly in a practical dimension.

1.2. Scope and Necessity of Study

This study is intended to empirically identify the influence of the leisure activity exerted upon social support, life satisfaction and mental loneliness of the elderly as well as the moderating effect of social support. To do this, an empirical study has been carried out in parallel with this study. In other words, through a theoretical consideration, the factors of leisure activity and social support that are important factors of influencing the life satisfaction and mental loneliness of the elderly have been deducted and the influence of these factors being exerted upon the elderly's life satisfaction and mental loneliness have been empirically verified (Kim et al., 2011).

This study has been carried out in order to conceptualize the life satisfaction and mental loneliness that would be the basis of this study and to deduce the concept of the leisure activity and social support as the influencing factors exerted upon the life satisfaction and mental loneliness. In other words, through an extended review on domestic and foreign academic theses and works, the concept and dimension of the leisure activity and social support that are influencing the life satisfaction and mental loneliness of the elderly have been identified while the moderating role of social support in the relationship among leisure activity, life satisfaction and mental loneliness has also been identified, upon which a study model has been established. As subjects of the empirical study, the elderly of over 65 years of age who participate in leisure activity have been selected. In addition, in order to enhance the diversity of analysis of this study, samples of sex, age, education, existence of spouse, living together with or without children, residence state, having an occupation or not, average monthly income, average pocket money, etc. have been selected. In this study, in order to empirically verify the study model, the following statistical processing methods have been used:

First, a frequency analysis has been carried out to identify the characteristics of the study samples.

Second, the internal consistency examination method utilizing the Cronbach's α coefficient has been used in order to verify the reliability of measurement. Third, both correlation analysis and hierarchical analysis have been carried out for hypothesis verification.

2. Theoretical Background

2.1. Leisure Activity of the Elderly

2.1.1. Definition of Leisure Activity of the Elderly

The definition of leisure is not easy to make as it is construed variedly depending on the situations of the times and the viewpoints of scholars. The leisure of the modern times has been changing from *licere* to a French word of *loisir* which means 'free hours,' to the English word of *license* (original meaning of official exemption of responsibility), and to *liberty*. These words are being used with a meaning similar to each other, but all of these mean the freedom of choice without any forcibleness. In addition, as a different meaning, leisure means taking a rest being freed from labor's physical sense of duty in the opposite concept of labor i.e., it is an action of escaping from forcibleness and duty while it is related to freedom, pleasure, rest, etc. in a mental-emotional aspect (Ataca & Berry, 2002).

Leisure has been proposed to be the whole of an individual's arbitrary activities that are made to demonstrate creativity by killing time freely, by refreshing itself, by

widening its knowledge and by participating in social activities voluntarily being escaped from any duty for families or social restrictions. Therefore, leisure is said to be escaping from the sense of temporal, active and social duties, whereas, through utilizing leisure, the energy for recovering from mind-body fatigue as well as for reproduction can be supplemented and then it is the time for creativity being aimed at achieving self-realization(Bae, 2004).

The senescent period is said to be the life after the earlier ages of 55 through 60 or the life after the age of 65, and throughout one's life cycle, it has been viewed to be the time period when only the couple would be left alone at home after their grown children have got married or become self-sustaining. During this time period, labor hours are reduced due to retirement, economic income is reduced, leisure time is increased, and the weight of leisure life takes the majority of life, thus causing the change from labor-oriented life to leisure-oriented life, which is quite different from those in the pre-senescent period. Therefore, it has been argued that, with appropriate leisure activity, the elderly should be given a new meaning of life through alleviating their mental loneliness and sense of alienation in their later years(Ataca & Berry, 2002).

2.1.2. Types of Leisure Activity of the Elderly

The types of leisure activity of the elderly are influenced by the various factors like an individual's character, educational background, economic level, past habit, etc. and because such factors are also working complexly, they can be classified into various types. Scholars' various viewpoints on the types of leisure activity of the elderly are seen to be as follows: Depending on the degree of expressional involvement in the cognitive, emotional and physical aspects, leisure activity has been divided into the four categories of sensible pleasure-seeking activity, creative activity, developmental activity, and relaxation activity. In addition, they have been divided to be those individual activity that can be done without being influenced directly by any other person and those paralleled activity utilizing lifeless matters with limited opportunity for interacting with others. And then, they have been classified to be those combined activity of making active interactions through physical activity with others and they have been classified into sports cultural activity, negative activity, productive activity, intellectual activity, etc. depending on the type of activity(Park & Bae, 2005).

Types of leisure activities have been classified depending on the nature of leisure. The leisure activity that is active, creative, of common target, and growing has been classified as the productive activity, those activity that the participants are the audience by spending the time of passive consumption behavior or that utilize certain experiences, materials or goods as the consumptive activity. Specifically,

the productive activity is sports, composing, drawing, telephone communication, studying as a leisure activity, horticulture, construction, repair, etc. and the consumptive activity is TV watching, listening to radio, watching movies or theatricals, watching sports games, shopping, simple rest, playing computer games, etc.(Kang & Kim, 2002)

2.2. Life Satisfaction of the Elderly

2.2.1. Concept of Life Satisfaction of the Elderly

Life satisfaction is a subjective evaluation about an overall life, thus being the concept that indicates the successful adaptation in the process of a life. The concept of life satisfaction has been first emerged with the life satisfaction being used as a dependent variable in order to verify both the activity theory and the separation theory(Kwon & Cho, 2000).

Life satisfaction is said to be the subjective and overall sense of mental stability, and it is being defined as the sense of happiness or the degree of satisfaction that is felt by an individual about the overall or whole life. In addition, life satisfaction is said to be a subjective recognition being achieved within the experience of an individual not being anything that changes requisitely depending on the objective situations although it may be influenced by the objective situations. Life satisfaction is also said to be the concept that incorporates the aspects of an individual's life in overall(Lee, 2010).

According to those scholars who emphasize a different aspect of the cognitive dimension, life satisfaction is defined as the degree of happiness or satisfaction that is felt by an individual about its overall or whole life, while it is also defined to be 'the evaluation on whether an individual's expected level has been satisfied reasonably or not.' As an indicator for measuring an individual's mental condition, it is said to be the most representative concept among the concepts of life satisfaction and sense of happiness that have been measured in various ways about various groups, while the feeling of psychological well-being has been defined to be 'the cognitive evaluation on how much an individual is satisfied with its own life'(Kwon & Cho, 2000).

Life satisfaction bears the factors which are the degree of satisfaction on life as a cognitive aspect and the positive-negative emotion as a subjective-emotional aspect. In addition, life satisfaction is not determined by external of objective conditions but it can be said to be an overall judgment about one's life that complies with the internal subjectivity derived from an individual's experience(Lee, 2010).

Therefore, in this study, it is intended that life satisfaction should be defined as the concept that takes both the negative and positive aspects simultaneously while it is being the subjective-emotional feeling that is achieved inside an individual's experience(Kwon & Cho, 2000).

2.2.2. Components of Life Satisfaction of the Elderly

Regarding the approach to life satisfaction, it can be viewed to be divided into the one dimensional approach where both the positive and negative aspects are figured out on a straight line and the two dimensional approach where they are figured out as independent territories. The concept of life satisfaction has been studied with the positive aspect of the sense of happiness or satisfaction, etc. as well as the adverse effect like sorrow, depression, anger, etc. placed on continuous one dimension, but life satisfaction has been classified into the two dimensions of the positive and negative dimensions(Manzoli et al., 2007) It has been said that, in order to measure an individual's psychological well-being, both the objective measurement with the symptoms appeared externally and the subjective evaluation on mental health should be made simultaneously, and life satisfaction and morale have been regarded as important indicators of the sense of psychological well-being. Using the word of subjective well-being as an identical word of psychological well-being, the sense of happiness, the degree of life satisfaction, and the positive emotion have been included in the subjective well-being, which has been viewed as the integration of all aspects of life(Berry, 1997).

Life satisfaction has been divided into the 6 sub-areas of self-acceptance, positive relationship with others, autonomy, environmental ruling, purpose of life and personal growth on the basis of the Maslow's self-realization concept and the approach of life cycle development(Lee, 2010).

Life satisfaction means the subjective evaluation on the quality of one's own life, which is to make a subjective evaluation on how much an individual is satisfied with its own overall life. In other words, it is an individual's subjective evaluation that means how much of one's goal of life or desire has been achieved in the material-mental aspect. Life satisfaction is one of the study subjects that have been carried out most actively as an health indicator of the successful aging especially in gerontology(Kwon & Cho, 2000).

In this study, as it was difficult to measure the abstract concept of life satisfaction with a single question, multiple questions on life's diversified areas were regarded to be necessary. Among these areas, the measurement on the life satisfaction of the elderly, with the temporal dimension being considered, has been utilized for measuring the life satisfaction(Kim et al., 2011).

2.2.3. Socio-demographic Influence Variables Affecting Life Satisfaction for the Elderly

Life satisfaction of the elderly may be diversified according to the home environment that surrounds the elderly and moreover to the social environmental factors like interest in the society or the nation, value, attitude, etc. Studies on the influence variables affecting the psychological well-being of the elderly have been carried out in a very

diversified ways at home and abroad. In general, socio-demographic variables of the elderly are known to be sex, age, educational level, occupation, income, marital status, leisure activity (participation), etc.(Chang, 2004)

There are a lot of studies on sex and life satisfaction. In general, the life satisfaction of elderly males has been found out to be somewhat higher than that of elderly females, whereas some study results show no difference irrespective of sex. As for the age and life satisfaction, it has been found out that the higher the age, the lower the life satisfaction, whereas there are some studies that show no correlation between age and life satisfaction(Kim et al., 2011).

Looking at the relationship between health and life satisfaction, health has been treated as the most important factor of life satisfaction in a majority of relevant studies. The elderly of better health have been found out to be more positive in their own life and participate actively in social activities, thus showing higher life satisfaction(Han & Yoon, 2001).

Looking at the relationship between educational level and life satisfaction, by and large, the elderly of higher education have been found out to be in a higher social position, well prepared for their later years and having a greater range of social activity, thus showing a higher life satisfaction(Kang & Kim, 2002).

Looking at the economic level and life satisfaction, the relationship between these is showing a consistent result that the elderly of higher economic level and those with self-sustaining level of economy are showing a higher life satisfaction in general(Jun & Kim, 2000).

Looking at the relationship between spouse existence and life satisfaction, the elderly with spouses have been found out to have lower sense of alienation, lower depression and higher life satisfaction(Kang & Kim, 2002).

2.3. Social Support of the Elderly

2.3.1. Concept of Social Support of the Elderly

Social support is said to be what is given to people from the social environment while it is also said to a meaningful, appropriate and protective feedback that makes it possible to deal well with intermittent or continuous stress factors, and it is defined in the 4 aspects as follow: First, As a useful human relationship, social support is indicated to be the individuals and groups connected to social relationship networks that are useful for the elderly like spouses, children, brothers and sisters(Kim, 2014).

Second, As a frequency of social interaction, it is the number of practical interactions being achieved in the social relationship networks. In other words, it is the number of conversations that are carried out personally or on the phone by an elderly person with the people in the social relationship networks(Carr, 2004).

Third, As a perceived social support, it means an elderly person's subjective evaluation about the supportive social networks, a sense of closeness with members in the relationship networks.

Fourth, As an instrumental support, it is said to be specific and observable services, etc. that are provided to the elderly by the social relationship networks such as food preparation, means of transport, nursing service, etc.(Kim, 2016)

This means that providing emotional, material or informational support may be helpful for an individual's psychological aspect or psychological sense of well-being. A negative aspect is that social relationship networks are not only the sources of social support, but also the sources of stress and conflict(Kim, 2014).

2.3.2. Components of Social Support of the Elderly

The components of social support can be classified by source depending on the main providing agent of the support and by function depending on the functions of social support. The sources of social support have been divided into superior, fellow worker, family and friend(Kim, 2014).

Social support has been divided into psychological support and specific support, and on the basis of stress situation, it has been divided into social-emotional support (affection, understanding, acceptance, enhancement of self-respect) and instrumental support (information, advice, responsible help, economic assistance).

Social support is being classified into spouse support, children support and friend support. In this study, it is intended to divide the types of social support depending on the main providing agent into the 3 sub-dimensions of spouse support, children support and friend support(Kim, 2016).

First, spouse support is to make frequent conversation or to recognize and respect each other, to listen to each other's sayings attentively, and to make frequent outings(Kim et al., 2011).

Second, children support is present when children are healthy with good relationship, economically well off being socially successful, while being trustworthy and dependable.

Third, friend support is that there are family-like friends, and good relationships are maintained with those friends, of course, and regular meetings are made with them((Kim et al., 2007).

2.3.3. Moderating Effect of Social Support of the Elderly

According to theories on social support, when a stress-causing incident has taken place, if the situation is uncontrollable, an individual becomes to have a negative psychology. It is said that, in such a situation, social support works in a positive direction in their relationship(Kim et al., 2007).

Social support is explained to exert a protective buffering effect that can promote adaptive coping behavior in a stress

situation. In a study on the relationship between the health of an elderly person and its stress/depression, it has been found out that social support (family support, friend support) plays the role of moderating the relationship between these(Kwon & Cho, 2000).

Studies on the thought of suicide of the elderly who live alone are reporting that, in the relationship between depression and suicide thought of an elderly person who lives alone, social support (emotional support, instrumental support) plays the role of moderating the relationship between these(Kim et al., 2007).

It has been verified that, in the relationship between spouse loss stress and depression in a group of the elderly, social support plays the role of a moderating variable. A study on the stress and depression of the elderly has shown that, when the stress caused by family problems is above average, a higher level of social support (material support) shows a better sign of moderating effect of reducing depression(Kwon & Cho, 2000).

As seen in the above, social support is believed to allow the individual to have a sense of psychological well-being by letting the individual recover self-conception like the sense of self-control or the sense of self-respect through assisting in problem solving and providing emotional stability(Kim et al., 2007).

2.4. Mental Loneliness of the Elderly

2.4.1. Definition of Mental Loneliness of the Elderly

Entering the senescent period, such events as children's independence, loss of spouse, death of friends with whom social links have been maintained are deepening the mental loneliness of an elderly person, while the anxiety on its own is growing larger and larger(Lee, 2010).

Looking at the factors that provokes mental loneliness of the elderly, mental loneliness of the elderly gets stronger as the age gets higher, and restrictions in activities caused by economic weakness extends their time spent without playing any role, thus lengthening their time of loneliness, and furthermore physical hypo-function caused by health problems worsens the degree of mental loneliness even more, thus provoking ill health and disease. In addition to this, the mental loneliness that is experienced by the elderly is getting stronger as the scope of activities in human matters is gradually reduced depending on the physical weakness, visual disturbance, and reduced cognitive function (Park & Bae, 2005).

These are resulted in important emotional health problems on the daily activities of the elderly. The feelings or signs of the occurrence of any such problems may appear in observable forms in such cases as changes in environmental conditions of an individual responding to internal-external stimulations, loss of spouse, worsening of health, etc. It has been said that mental loneliness is an

outcome resulted from accumulated loss of roles experienced by the elderly and that the elderly's loss of roles would exert an influence absolutely upon the sense of psychological well-being of the elderly. In other words, Active participation in social activities or leisure activities in this sense reduces mental loneliness (Kwon & Cho, 2000).

2.4.2. Components of Mental Loneliness of the Elderly

Mental loneliness of the elderly means an emotional experience of sorrow and frustration that is felt when an elderly person has lost a person who has been in social friendly relationship for a long time or when an elderly person has lost social roles that have been played by the elderly person. The mental loneliness that is experienced by the elderly is not a temporary one but a chronic one in most cases and the sense of meaninglessness and alienation or the failure in establishing human relationships will eventually lead the elderly to death. Mental loneliness of the elderly is one of the problems that will have to be encountered inevitably in the aging process and that can not be overcome, and mental loneliness of the elderly means to be not the mental loneliness of psycho-pathological basis but the social mental loneliness caused by the loss of social roles, and when the elderly fail to maintain each other's relationship, they can be said to be feeling the sense of alienation and mental loneliness. Most of the elderly take a complacent posture with the negative thought that it will be all right simply to rest comfortably with no worries by resorting to the reasons of physical degeneration and mental weakening, and the resulting mental loneliness of the elderly may be more serious (Patterson, 2004).

Mental loneliness has been used in diversified terminologies like loneliness, sense of alienation, etc. making an accurate definition of it is quite difficult. In this study, it has been defined as the sense of alienation and solitude, a closed emotional isolation resulting from the absence of warm heart and peace because they are not obtainable from oneself, family, friends or social environment (Manzoli et al., 2007).

3. Methodologies

The objective of this study consists in doing research on the influence of leisure activity exerted upon both life satisfaction and mental loneliness of the elderly over 60 and also on the moderating role of social support. As mentioned previously, in this study, it is intended to consider the two variables of life satisfaction and mental loneliness which are the productive leisure activity and the consumptive leisure activity as factors of leisure activity. In addition, it is also intended to review the social support as divided into spouse support, children support and friend support depending on the main agent of providing support.

3.1. Variables and Measuring Instruments

3.1.1. Life Satisfaction and Mental Loneliness

The dependent variables of the study model are life satisfaction and mental loneliness. The definitions and measurement indicators about the concept of life satisfaction are substantially different from each other depending on viewpoints and theories and by scholars.

In this study, from the aspect that desirable and successful after years is important for the elderly over 60, it is intended to review the life satisfaction which is a positive measurement indicator being widely used as measurement indicator of life satisfaction in the aspect of successful later years, and the mental loneliness which is a negative indicator as dependent variables. Life satisfaction indicates a subjective evaluation about the quality of life of oneself and mental loneliness means the degree of experiencing changes and losses in the contacts with others (Lee, 2010).

3.1.2. Leisure Activity

The dependent variable to be reviewed in this study is leisure activity. Diversified types of factors of leisure activity are being proposed, but in an organized definition, it is intended to do research on "productive leisure activity" and "consumptive leisure activity" with regard to the type of "leisure activity."

Therefore, also in this study, a hypothesis has been established that the leisure activity factors of both the productive and consumptive leisure activity would exert positive influence upon the life satisfaction which is a positive dimension while they would exert negative influence upon the mental loneliness which is a negative dimension (Goldman et al., 1995).

3.1.3. Social Support

Another variable included in this study model is social support. The definitions and measurement indicators about the concept of social support are substantially different from each other depending on viewpoints and theories and by scholars. In this study, from the aspect that desirable and successful after years is important for the elderly over 60, it is intended to review the 3 types of social support after dividing it into spouse support, children support and friend support that are being widely used as measurement indicator of social support in the aspect of successful later years (Manzoli et al., 2007).

3.2. Measuring Instrument

Because the measurement attributes like reliability, validity, etc. of the variables included in this study are well established, measurements have been made using those measures that are widely utilized in welfare studies. The two

variables of the leisure activity factors of productive and consumptive leisure activity have been measured by making corrections and supplementations to fit the reality after selecting 4 questions for each of the two variables. The social support factors of the 3 variables of spouse support, children support and friend support have been measured after selecting 4 questions for each (Glrmn & Weaver, 1981).

The dependent variables have been measured using the two measurement indicators of life satisfaction and mental loneliness. Specifically, the variable of life satisfaction has been measured after selecting 8 questions in the elderly's life satisfaction measures. And then, the mental loneliness variable has been measured after selecting 6 questions. In addition to theoretical variables, the demographic variables of sex, age, education, living with children or not, residence state, occupation, average monthly income, average monthly pocket money, etc. have been measured using single questions. Responses to the questions used for the measurement of all the theoretical variables excluding the demographic variables have been made by using the Likert-type 5-point scale that has 5 response categories from 'definitely yes (1 point)' to 'absolutely no (5 points).'

3.3. Setting up Hypotheses

<Table 1> Establishment of Hypotheses

DIV	Hypothesis
H1	Leisure activity will exert a useful influence upon life satisfaction and mental loneliness.
H1-1	Productive leisure activity will exert a positive influence upon life satisfaction of the elderly.
H1-2	Productive leisure activity will exert a negative influence upon mental loneliness of the elderly.
H1-3	Consumptive leisure activity will exert a positive influence upon life satisfaction of the elderly.
H1-4	Consumptive leisure activity will exert a negative influence upon mental loneliness of the elderly.
H2	Social support will exert a useful influence upon life satisfaction and mental loneliness.
H2-1	Spouse support will exert a positive influence upon life satisfaction of the elderly.
H2-2	Spouse support will exert a negative influence upon mental loneliness of the elderly.
H2-3	Children support will exert a positive influence upon life satisfaction of the elderly.
H2-4	Children support will exert a negative influence upon mental loneliness of the elderly.
H2-5	Friend support will exert a positive influence upon life satisfaction of the elderly.
H2-6	Friend support will exert a negative influence upon mental loneliness of the elderly.
H3	Social support (spouse support, children support, friend support) will play the moderating role in the relationship between leisure activities (productive leisure activity, consumptive leisure activity), life satisfaction and mental loneliness.

4. The Findings

4.1. General Characteristics of Survey Subjects

In this study, the survey subjects have been taken from the elderly who were participating in leisure activity in senior welfare service centers, colleges of the elderly, cultural centers of the elderly and centers for senior citizens that were located in the Seoul area. The socio-demographic characteristics of these respondents are given as follows:

In terms of gender, males account for 45.0% and females for 55.0%. In terms of age, the age group of 60-64 accounts for 4.5%, that of 65-69 accounts for 43.9%, 70-75 for 20.8%, 75-80 for 23.9% and 80-84 for 2.9%. In terms of education level, the uneducated group accounts for 7.6% and the primary school education group accounts for 20.0%, the middle school education group for 24.3%, the high school education group for 23.3%, the 2-year college education group for 7.2%, the college education group for 13.7% and the graduate school or higher education group for 4.3%. In terms of living with children or not, living with children accounts for 35.5%, living separately from children accounts for 59.5% and no children accounts for 5.0%. In terms of spouse existence, having spouse accounts for 68.3% and no spouse accounts for 32.8%. In terms of type of residence, own house account for 72.6%, lease or monthly rent, etc. accounts for 27.4%. In terms of having occupation or not, having occupation account for 24.7%, and no occupation accounts for 75.3%.

4.2. Reliability Analysis

The Cronbach's α coefficients of the measurement instruments that have been used for measuring the variables in this study are given in <Table 1>. As provided in this table, the reliability coefficients are as follows: productive leisure activity .741, consumptive leisure activity .703, spouse support .919, children support .912, friend support .959, life satisfaction .922 and mental loneliness .948. In other words, The reliability coefficients of all the measures are over .60, which shows an acceptable reliability level. Based on such analysis results of reliability and validity, in the forthcoming analyses, the average response values from the questions that consist each of the measures have been taken as measure values of each variable. Therefore, all the values of the theoretical variables have a range between 1 and 5. The number of questions, average values and standard deviations that have been used for measuring variables are given in <Table 4>.

<Table 2> Results of Reliability and Technical Statistics of Measurement Variables

Variable	Question number	Average	Standard Deviation	Cronbach's α
Productive leisure activity	4	3.06	.913	.741
Consumptive leisure activity	4	3.68	.879	.703
Spouse support	4	3.74	.950	.919
Children support	4	4.03	.806	.912
Friend support	4	4.00	.912	.959
Life satisfaction	6	3.58	.818	.922
Mental loneliness	6	2.38	.839	.948

<Table 3> Correlation Between Variables

Division	Productive leisure activity	Consumptive leisure activity	Spouse support	Children support	Friend support	Life satisfaction	Mental loneliness
Productive leisure activity	1						
Consumptive leisure activity	.371**	1					
Spouse support	.467**	.253*	1				
Children support	.575**	.333**	.633**	1			
Friend support	.539**	.296**	.563**	.693**	1		
Life satisfaction	.657**	.355**	.646**	.668**	.598**	1	
Mental loneliness	-.368**	-.223*	-.482**	-.537**	-.669**	-.575**	1

*P<.05 **P<.01 ***P<.001

4.3. Correlation Between Variables

First of all, looking at the relationships between the social support variables and the life satisfaction and mental loneliness variables, all of the 2 leisure activity (productive and consumptive leisure activity) variables and the 3 social support (spouse support, children support, friend support) variables have a significant positive correlation with life satisfaction while they have a significant negative correlation with mental loneliness.

This suggests that the more the productive leisure activity and the consumptive leisure activity and the more the spouse support, children support and friend support, the higher the life satisfaction whereas the lower the mental loneliness. In the meantime, looking at the correlation between the control variables and the life satisfaction and mental loneliness variables, the spouse existence variable has a significant positive correlation with life satisfaction. The results of analyzing the correlations between theoretical variables including control variables are provided in <Table 2>.

4.4. Analysis on Influence of leisure activity and Social Support Exerted Upon Life Satisfaction

The result of performing the hierarchical regression analysis in order to analyse the influence that life satisfaction is affected by leisure activity (productive and consumptive leisure activity) and social support (spouse support, children support, friend support) is provided in <Table 4>.

In this table, <Model A> is the result of regressing the 7 control variables to life satisfaction, and <Model B> is the result of regressing dependent variables of the 2 leisure

activities (productive leisure activity, consumptive leisure activity) variables and the 3 social support (spouse support, children support, friend support) variables in addition to the control variables to life satisfaction. All of the regression coefficients provided in each table are standardized regression coefficients (Beta).

First of all, in the <Table 4>, looking at the result that the 7 control variables have been regressed to life satisfaction, the 7 control variables are explaining 14.5% of the life satisfaction variation, which is shown to be significant on the level of .001. Looking specifically at the significance of individual variables, it has been found out that the average monthly household income ($\beta=.317$, $p<.01$) is exerting a significant positive influence upon life satisfaction. This indicates that when having a religion and when the average monthly household income is higher, life satisfaction is higher.

Looking at <Model B> which is the result of regressing the 2 leisure activity variables and the 3 social support variables in addition to <Model A>, these 5 variables are explaining 46.5% of life satisfaction variation additionally, which is significant on the level of .01. Looking specifically at the significance of individual variables, it has been found out that all of the 2 leisure activity variables which are productive leisure activity ($\beta=.327$, $p<.01$) variable and the consumptive leisure activity ($\beta=.195$, $p<.05$) variable, and all of the 3 social support variables which are spouse support ($\beta=.395$, $p<.01$), children support ($\beta=.254$, $p<.05$), and friend support ($\beta=.213$, $p<.05$) variables are exerting a significant positive influence upon life satisfaction.

Such a result means that more participation in productive leisure activity and consumptive leisure activity as well as

increase in spouse support, children support and friend support are making higher life satisfaction. Looking at relative importance of variables, of the 2 leisure activity variables, the variable of productive leisure activity is exerting a more important influence than that of consumptive leisure activity, of the 3 social support variables, the variable of spouse support is exerting the most important influence and the next ones are in the order of children support and friend support.

4.5. Analysis on Influence of Leisure Activity and Social Support Exerted Upon Mental Loneliness

The result of performing hierarchical regression analysis in order to analyze the influence that mental loneliness is affected by the 2 leisure activity (productive leisure activity and consumptive leisure activity) variables and the 3 social support (spouse support, children support, friend support) variables is provided in <Table 5>. In this table, <Model A> is the result of regressing the 7 control variables to mental loneliness, and <Model B> is the result of regressing dependent variables of the 2 leisure activity (productive leisure activity, consumptive leisure activity) variables and the 3 social support (spouse support, children support, friend support) variables in addition to the control variables to mental loneliness. All of the regression coefficients provided in each table are standardized regression coefficients (Beta).

First of all, in the <Table 5>, looking at the result that the 7 control variables have been regressed to mental loneliness, these 7 control variables are explaining 13.2% of the mental loneliness variation, which is seen to be not significant on the level of .05. Looking at <Model B> which is the result of regressing the 2 leisure activity variables and the 3 social support variables additionally to <Model A>, these 5 variables are explaining 40.1% of mental loneliness variation additionally, which is significant on the level of .01.

Looking specifically at the significance of individual variables, it has been found out that the productive leisure activity ($\beta=-.231, p<.05$) variable of the leisure activity variables as well as the spouse support ($\beta=-.289, p<.01$) variable and the friend support ($\beta=-.518, p<.01$) variable of the social support variables are exerting a significant negative influence upon mental loneliness, while it has been found out that consumptive leisure activity and children support are not exerting a significant influence on the level of .05. Such a result means that more participation in productive leisure activity and increase in spouse support and friend support are making lower mental loneliness.

Looking at relative importance of variables, of the 2 social support variables that have been found out to be exerting a significant influence upon mental loneliness, friend support has been found out to be exerting a much more important influence than spouse support.

<Table 4> Result of Hierarchical Regression Analysis On life Satisfaction

Independent variable		Model A			Model B		
		B	t	p	B	t	p
Control variable	Sex	.123	.427	.272	-.127	-.545	.228
	Age	.182	1.372	.053	-.134	-.728	.165
	Educational level	.145	.704	.173	-.116	-.355	.298
	Spouse existence	-.102	-.120	.392	.116	-.384	.288
	Living with or without children	.136	.662	.185	.169	.383	.288
	Monthly household income	.317	3.302	.001	.134	.679	.181
Leisure variable	Productive leisure activity				.327	3.804	.000
	Consumptive leisure activity				.195	1.860	.030
Social support variable	Spouse support				.395	4.778	.000
	Children support				.254	2.295	.014
	Friend support				.213	1.842	.033
R ²		Adj-R ² = .145, F = 7.237, p=.000			Adj-R ² = .465, F = 12.232, p=.000		

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

<Table 5> Result of Hierarchical Regression Analysis On Mental Loneliness

Independent variable		Model A			Model B		
		B	t	p	B	t	p
Control variable	Sex	-.201	-1.507	.070	-.148	-.689	.178
	Age	-.124	-.439	.267	.151	.953	.107
	Educational level	.131	.499	.245	.153	.888	.115
	Spouse existence	-.110	-.246	.342	.105	.171	.641
	Living with or without children	.111	.256	.338	.137	.719	.188
	Monthly household income	-.227	-1.871	.029	.105	.161	.375
Leisure variable	Productive leisure activity				-.231	-1.989	.020
	Consumptive leisure activity				-.115	-.336	.307
Social support variable	Spouse support				-.289	-2.742	.004
	Children support				-.227	-1.695	.055
	Friend support				-.518	-5.829	.000
R ²		Adj-R ² = .132, F = 7.237, p=.000			Adj-R ² = .401, F = 12.232, p=.000		

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

4.6. Hypothesis Verification for Moderating Effect

A hierarchical regression analysis has been carried out additionally to verify whether or not the 3 variables of spouse support, children support and friend support moderate the relationship between leisure activity and life satisfaction, and the result is provided in <Table 6>. In this table, <Model B> is the result of regressing <Model A> with the 2 leisure activity variables and the 3 social support variables added, and <Model C> is the result of regressing <Model B> and the 6 interaction terms that have been made by multiplying the 2 leisure activity variables and the 3 social support variables together. All of the regression coefficients provided in each table are standardized regression coefficient values (Beta).

First of all, in the <Table 6>, looking at <Model C>,

which is <Model B> with the 6 interaction terms added together, the 6 interaction terms are explaining 49.2% of life satisfaction variation additionally, which is significant on the level of .01. This means that a moderating effect exists. Looking specifically at the individual interaction terms, it has been found out that the 2 interaction terms of productive leisure activity * spouse support ($\beta=.233$, $p<.05$) and productive leisure activity * friend support ($\beta=.250$, $p<.05$) are exerting a significant positive influence upon life satisfaction. Such a result means that spouse support and friend support are moderating the relationship between productive leisure activity and life satisfaction. Specifically speaking, it means that the more the spouse support and the more the friend support, the larger the positive influence of productive leisure activity being exerted upon life satisfaction.

<Table 6> Analysis Result of Moderating Effect On Life Satisfaction.

Independent variable		Model B			Model C		
		B	t	p	B	t	p
Control variable	Sex	-.127	-.545	.228	-.127	-.545	.228
	Age	-.134	-.728	.165	-.134	-.728	.165
	Educational level	-.116	-.356	.298	-.116	-.356	.239
	Spouse existence	-.115	-.384	.287	-.115	-.384	.287
	Living with or without children	.116	.383	.288	.116	.383	.288
	Monthly household income	.134	.679	.161	.134	.679	.181
Leisure variable	Productive leisure activity	.326	3.804	.000	.285	2.922	.002
	Consumptive leisure activity	.195	1.860	.070	.187	1.614	.056
Social support variable	Spouse support	.395	4.778	.000	.406	4.693	.000
	Children support	.254	2.295	.014	.262	2.361	.012
	Friend support	.223	1.842	.032	.217	1.875	.032
Moderated regression	Productive leisure activity * Spouse support				.233	2.014	.025
	Productive leisure activity * Children support				-.106	-1.180	.368
	Productive leisure activity * Friend support				.250	2.177	.018
	Consumptive leisure activity * Spouse support				.135	.655	.189
	Consumptive leisure activity * Children support				.115	.326	.310
	Consumptive leisure activity * Friend support				-.120	-.399	.282
R ²		Adj-R ² = .454, F = 12.232, p=.000			Adj-R ² = .492, F = 18.226, p=.000		

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

<Table 7> Analysis Result of Moderating Effect On Mental Loneliness

Independent variable		Model B			Model C		
		B	t	p	B	t	p
Control variable	Sex	-.139	-.689	.188	-.133	-.592	.211
	Age	.151	.826	.187	.149	.910	.109
	Educational level	.153	.888	.115	.154	.890	.114
	Spouse existence	.105	.171	.641	.102	.121	.391
	Living with or without children	.137	.719	.188	.152	.977	.180
	Monthly household income	.105	.161	.375	.109	.218	.353
Leisure variable	Productive leisure activity	.231	1.989	.020	.218	1.693	.055
	Consumptive leisure activity	-.115	-.336	.307	-.147	-.828	.333
Social support variable	Spouse support	-.289	-2.742	.004	-.308	-2.868	.002
	Children support	-.227	-1.695	.055	-.224	-1.630	.054
	Friend support	-.518	-5.829	.000	-.505	-5.575	.000
moderated regression	Productive leisure activity * Spouse support				.188	1.227	.120
	Productive leisure activity * Children support				.166	.958	.185
	Productive leisure activity * Friend support				-.261	-2.352	.012
	Consumptive leisure activity * Spouse support				.133	.551	.217
	Consumptive leisure activity * Children support				-.160	-.922	.105
	Consumptive leisure activity * Friend support				-.188	-1.177	.131
R ²		Adj-R ² = .310, F = 12.333, p=.000			Adj-R ² = .339, F = 18.327, p=.000		

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

In the <Table 7> which is the analysis result of the moderating effect on mental loneliness, if we look at <Model C>, which is <Model B> with the 6 interaction terms added together, the 6 interaction terms are explaining 33.9% of mental loneliness variation additionally, which is significant on the level of .05. This means that a moderating effect exists. Looking specifically at the individual interaction terms, it has been found out that the interaction term of productive leisure activity * spouse support ($\beta = -.261$, $p < .05$) is exerting a significant negative influence upon mental loneliness. Such a result means that friend support is moderating the relationship between productive leisure activity and mental loneliness. Specifically speaking, it indicates that the more the friend support, the smaller the negative influence of productive leisure activity exerted upon mental loneliness, thus mental loneliness becomes much lower.

4.7. Testing of Hypotheses

First, like most of the preceding studies, this study also shows that leisure activities contribute to the enhancement of life satisfaction of the elderly. In the meantime, the result of this study suggests that not all types of leisure activities provide useful help for enhancing life satisfaction of the elderly, but that the influence of leisure activity exerted upon life satisfaction of the elderly varies in its mode depending on the contents and characteristics of leisure activities. Specifically, it shows that productive leisure activity is exerting an important influence upon the enhancement of life satisfaction or the reduction of mental loneliness. On the other hand, it has been found out that consumptive leisure activity is exerting a relatively very small influence upon the enhancement of life satisfaction of the elderly as compared with productive leisure activity, without exerting any significant influence upon the reduction of mental loneliness,

Such a result shows that, in the aspect of life satisfaction and mental loneliness, productive leisure activity plays a much more important role than consumptive leisure activity for the enhancement of life satisfaction. It is, therefore, quite necessary to promote and induce the participation of the elderly in productive leisure activities rather positively.

Second, the result of this study is empirically supporting the arguments of relevant literature that social support increases life satisfaction of the elderly. However, this study's result shows that the influence of social support is presented discriminately depending on the components of life satisfaction and mental loneliness.

Specifically, upon the life satisfaction, spouse support is exerting the most important influence while, on the other hand, friend support is exerting a dominantly important influence upon mental loneliness which is a negative dimension. Such a result shows that the influence of the 3 types of social support, i.e., spouse support, children support and friend support, is presented discriminately depending on the negative and positive dimensions.

Meanwhile, an interesting fact with regard to social support is that children support is exerting a useful influence upon the enhancement of life satisfaction of the elderly, but it is not contributing any significant contribution to the reduction of mental loneliness. This is judged to be that receiving emotional and instrumental assistance from children enhances life satisfaction of the elderly, but that it is not quite helpful in alleviating mental loneliness due to the difference in thinking and the lack of emotional bond of sympathy caused by the generation gap with children.

Third, the result of this study shows that social support is not only exerting an influence directly upon life satisfaction and mental loneliness, but also moderating the relationships among leisure activity, life satisfaction and mental loneliness. However, as shown from the result of this study, the moderating effect of social support is appearing quite restrictedly only in part of the relationships.

Specifically, it has been found out that social support is moderating only the relationships among productive leisure activity, life satisfaction and mental loneliness, but does not play the moderating role in the relationships among consumptive leisure activity, life satisfaction and mental loneliness. Furthermore, only the 2 types of spouse support and friend support do the moderation in the relationship between productive leisure activity and life satisfaction, and only the type of friend support does the moderation in the relationship between productive leisure activity and mental loneliness.

Also in the previous studies like this study, it has been found out that social support is playing the moderating role restrictedly only in part of the types of social support and only in part of the relationships among variables.

The reason for receiving such a result is not clear, but one possibility is that the moderating effect of spouse support, children support and friend support might appear variedly depending upon the characteristics of life satisfaction, mental loneliness and their antecedent variables. In order to identify such a possibility, additional studies will have to be carried out.

5. Summary

5.1. Findings

The purpose of this study was to search for the influence of leisure activity and social support being exerted upon life satisfaction and mental loneliness as well as the moderating role of social support.

In this study, as leisure activities, the 2 types of productive leisure activity and consumptive leisure activity, and as social support, the 3 types of spouse support, children support and friend support, and the 2 factors of life satisfaction and mental loneliness have been reviewed. For

this study, relevant data have been collected from the 380 elderly persons who were participating in leisure activities at the 10 places of senior welfare service centers, colleges of the elderly and cultural centers of the elderly located in the Seoul area. As a data collection instrument, a structured questionnaire sheet was used, and as the main analysis method for hypothesis verification, the hierarchical regression method was used. As a result, the study findings are as follows:

First, productive leisure activity of the elderly was found out to exert an important influence upon the enhancement of the positive dimension of life satisfaction as well as upon the reduction of the negative dimension of mental loneliness, but consumptive leisure activity was found out to exert a relatively small influence upon the enhancement of only the life satisfaction.

Second, upon life satisfaction of the elderly, spouse support was found out to exert the most important influence, and the next were in the order of children support, and friend support. On the other hand, upon the reduction of mental loneliness, friend support was found out to exert the most important influence and the next was spouse support, whereas children support did not exert a significant influence.

Third, of the 3 types of social support for the elderly, the 2 types of spouse support and friend support were found out to moderate the relationship between productive leisure activity and life satisfaction, and as for the relationship between productive leisure activity and mental loneliness, only the friend support was found out to play the moderating role.

The result of this study is suggesting policy implications that are important for enhancing life satisfaction in senescent period of the elderly. First of all, it is necessary to make efforts to provide policies for promoting and expanding the elderly's participation in leisure activity, especially in productive leisure activity. Currently our country is lacking absolutely in professional manpower that will take the responsibility of not only operating various leisure activity programs and facilities for health-sports activities, hobby activities, learning activities, social participation activities, etc. of the elderly, but also developing and guiding those programs.

Therefore, the elderly's opportunities for participating in leisure activities should be enlarged substantially by means of expanding the facilities, programs and responsible professional manpower for the diversified productive leisure activities of the elderly.

Next, an institutional support should be provided for maintaining and expanding a stable social relationship

network of the elderly. Expanding opportunities for participating in leisure activities of the elderly may be linked to the formation and expansion of friend relationship quite naturally. Meanwhile, it's a sad reality that never a small number of the elderly are living miserably in their later years due to their worsened relationships with their spouses and/or children. It is, therefore, necessary to prepare an institutional strategy for allowing local societies to intervene positively in the adverse situations of the elderly who are experiencing difficulties in their family relationship in a local society's dimension. In addition to this, various psychotherapies and educational programs for recovering and normalizing family relationships should be activated.

5.2. Implications and Suggestions

The limitations of this study and the suggestions for future studies are as in the following: First, there can be limitations in generalizing the outcomes obtained from this study because this study has been carried out using the data collected from the elderly who participate in leisure activity programs of the senior welfare facilities located in the Seoul area. It is necessary to carry out additional studies for subjects of more diversified geographical areas and groups of the elderly. Second, in this study, as measurement indicators, the positive dimension of life satisfaction and the negative dimension of mental loneliness were used. However, in addition to these two factors, there are other measurement indicators like sense of happiness, anxiety, depression, etc. In future studies, it will be necessary to consider using more diversified measurement indicators. Third, in this study, as a determinant of life satisfaction, leisure activity and social support have been researched. However, in addition to these, other diversified variables like physical-mental health, economic state, personality characteristics, etc. are expected to influence life satisfaction.

It will be, therefore, necessary to consider a wider range of diversified determinants in future studies in order to secure a fruitful understanding on psychological well-being.

Fourth, in this study, researches have been done on the influence of leisure activity and social support being exerted upon life satisfaction and mental loneliness by using longitudinal data. However, there also is a possibility that the elderly's participation in leisure activity will become more activated with higher life satisfaction. It will, therefore, be necessary to carry out longitudinal studies that will do researches on the causal influence between variables in accordance with the flow of time.

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