The Effects of Social Activities and Fear of Death on Depression in the Elderly

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The purpose of this study, using relevant socio-demographic variables, is to identify depression in the elderly, and to obtain basic information necessary for the development of senior counseling programs by analyzing the relative effects of socio-demographic variables, social activities, and fear of death on the level of geriatric depression. The subjects were 217 elderly individuals living in Seoul and Kyunggi Province, Korea. This study was conducted between February 22nd and March 15th of 2010, and the data were collected using questionnaires of Geriatric Depression Scale, Social Activities Scale, and Fear of Death Scale. Using SPSS/WIN15.0 software, the analysis of the data revealed the following. First, among the relevant socio-demographic variables, age, marital status, education, health condition, economic status, the period of retirement, and support provider affected depression in elderly individuals. Second, geriatric depression was negatively correlated with the level of social activities, but was positively correlated with fear of death. Third, education, health condition, economic status, number of social groups, painful death, and life after death were predictive of depression in the elderly. The implications of this study's findings on social work practice are also discussed, along with some future research directions.

Key words: Elderly Individuals, Social Activities, Fear of Death, Geriatric Depression

Ⅰ. Introduction

Without being properly prepared, Korea has become an aging society at an unprecedented pace. This rapid aging of the population has resulted in a variety of problems. Among these problems, the elderly depression and senior suicide are so often focused on by the media. The causes of suicide in senior citizens are complex and multifarious, but geriatric depression appears to be the principal cause. Eight out of ten male and female seniors aged 60 and above experienced suicidal attacks, largely as the consequence of infirmities, family disputes, and loneliness (Seo, 2006). 72% of seniors who felt suicidal suffered depressive symptoms, which again demonstrates the severity of the geriatric depression. That is, depression is becoming a general emotional issue among elderly Korean individuals.

As geriatric problems such as depression and suicide induced by psychological and social maladjustment have surfaced as serious issues, attention is being increasingly focused on issues of psychological and social adjustment in the elderly. In particular, with increasing interest in geriatric depression, active research has been conducted regarding geriatric depression and associated variables. However, comprehensive research including socio-demographic variables remains insufficient, and there is a clear need to look more deeply into changes in the family system, including retirement, loss of role, death of spouse, patterns of living arrangements, issues of the main supporter, and reduced support from the family.

As the Korean elderly face scaled-back efforts to achieve social goal, this newfound leisure also provides extensive time to reflect on the negative aspects of life, including loss of role, death of spouse, disease, and death itself. The results of a loss in motivation for life often cause the individual to become languid, which further intensifies the depression (Kaplan and Sadock, 2000). The fewer contacts a senior maintains with society, the more that individual will tend to think about death. Also, the fewer counseling opportunities that individual will have, the more depressed the senior will become (Charles, 2001).

Although anxiety about aging and death is a universal human issue, the elderly are the ones who are closest to death, and the fear of death is an important geriatric problem because physical and mental diseases occur with more rapidity in old age than in any other age group (Stur-

giss, 2009). In particular, as seniors experience the deaths of their friends, spouses, and relatives, geriatric depression and anxiety about death are crucial topics to address from a psychological perspective.

Previous studies into elderly death centered around seniors' attitudes and perceptions concerning death (Son and Kim, 1984: Ahn, 1999; Lee, 2004), as well as care for patients near death and death education (Johnson and Walker, 1996; Ahn, 1999; Cho, 2002). The fear of death and its effects on depression and psychological health in senior citizens are important subjects to be studied, although very little research has been conducted.

Depression and suicide in elderly individuals are social problems that are drawing increasing attention from researchers. Thus, a controversy is currently raging regarding the need for preventive and practical interventions into seniors' lives, to prevent suicide and to ameliorate psychological problems. Korea lacks basic data for the development of counseling programs designed to help seniors resolve psychological problems and to help them adapt more effectively. An investigative study must be conducted in order to provide insights into seniors' relevant socio-demographic characteristics, social activities, fear of death, and these factors' relative effects on depression, before beginning development of these senior counseling programs.

Therefore, the purpose of this study is to provide basic information that should prove useful in the development of counseling programs to help elderly individuals reduce their depressive symptoms. To this end, the following research questions are raised. First, are there any differences in depression levels according to socio-demographical variables? Second, what correlation can be drawn between social activities, fear of death, and depression in Korean senior citizens? Third, which one of the three--socio-demographic variables, social activities, or fear of death--is the principal explanatory variable that predicts depression?

Ⅱ. Theoretical Background and Literature Review

1. Socio-demographic and Geriatric Depression

Geriatric depression is a negative emotional state that is common among seniors, along with conflicts and nervousness in the process of stress adaptation. Also Geriatric depression is an emotional disorder in which seniors feel distressed, gloomy, languid, and worthless as the result of physical changes (Stoppe et al., 1999). Clinical symptoms include hypochondriac complaints and difficulty in going back to sleep in the wee hours, in addition to smile mask syndrome and the loss of interest. Cognitive disorders are also relatively common. Cognitive disorder, which is frequently mistaken for dementia is abruptly induced by mood swings with exaggerated complaints and loss of function in daily life (Bae, 2002).

Previous studies into geriatric depression depending on health conditions have shown that seniors tend to be more concerned about their health. Thus, seniors who are not in particularly good shape are more likely to develop depression (Li, 1995; Kissane and McLaren, 2006). It has also been determined that the state of health perceived by seniors themselves meaningfully influences geriatric depression (Kim, 2001; Hooker, 2003; Crucza et al., 2005).

Financial conditions are also associated with depression in the elderly (Dunkle, 1983; Kyung and Yoo, 2000; Choi, 2003; Lee, 2004), and geriatric depression has been reported to differ significantly according to the individual's perception of his or her financial state. One's economic status is deeply linked to one's job, and thus employment status also affects depression. However, some researchers have also concluded that the level of geriatric depression is not significantly affected by job status (Charles, 2001; Scoco and DeLeo, 2002; Sturgiss, 2009). Thus, studies into the relationship between jobs and depression also tend to generate inconsistent conclusions.

Studies regarding the impact of religiosity on geriatric depression have demonstrated that religious seniors tend to be less susceptible to depression than non-religious seniors (Brodsky and Stanley, 2001; Jang and Kim, 2005; Kang, 2009), and also that non-religious seniors tend to be more likely to develop depression. However, some studies have demonstrated that religiosity generates no significant differences in the level of depression (Bae, 2002), and also that no cor-

relation can be drawn between religion and depression. Thus, studies regarding the relationship between religion and depression have come to inconsistent conclusions.

Rapid changes in family structure and function over recent years have spurred studies into variables including gender, living arrangements, and marital status. Previous studies of geriatric depression have come to inconsistent research conclusions regarding the questions as to whether age and gender affect depression in elderly individuals. The older the senior individual is, the more likely he or she is to suffer from depression, and the more depressive he or she becomes (Koh et al., 2001; Huh and Yoo, 2002; Tak, et al., 2003; Kang, 2009). Older women are more susceptible to depressive emotions than older men, and male seniors are less prone to depression than female seniors. However, in another study (Hwang and Kim, 2008), it was explained that depressive symptoms tend to arise more frequently with advanced age and women evidence depressive symptoms more frequently, but that men 55 years of age or above become increasingly depressed all the way to age 80, at which point they are more depressed than their women counterparts. The results of other studies, though, have demonstrated no significant differences in depression levels by gender among the elderly (Lee, 2004; Jang and Kim, 2005).

Research into the relationship between older adults' marital status and depression shows that seniors who do not live with their spouses tend to be more depressed than those who do live with their spouses, and also that older couples who live independently or live far away from their children tend to be more prone to depression (Shin and Lee, 2002; Barak, 2004). It has also been reported that individuals who are separated, divorced, or remarried tend to be more depressed than those who have stayed with their first spouse (Kyung and Yoo, 2000; Tak, et al., 2003). Elderly individuals who live alone without a special support system around them may experience serious difficulties when they fail to fulfill their own needs. Therefore, these individuals tend to have a higher depressive disposition and more profound cognitive decline. Additionally, seniors who live alone tend to be less healthy, poorer, and receive less support from society-- and thus tend to be more depressed-- than those who live with their families or spouses.

Recent changes in the family system and reduced familial support have engendered geriatric issues with longer life expectancy, making life after retirement more important to older individuals. Therefore, the present study attempted to determine the manner in which the current living

arrangement of seniors, the main supporter, and period after retirement affect depression, separate from the socio-demographic factors addressed in previous studies.

2. Social Activities and Geriatric Depression

Old age is a time of life during which people are no longer obliged to have an occupation, and thus they are not as involved as before in production or leisure on a regular basis. The elderly frequently idle away their time in passive and boring activities. Proper leisure activities may exert positive effects on seniors, such as a delay in the aging process and the prevention of degradations in physical strength. Therefore, a clear need exists to create an environment and spaces conducive to these individuals' leisure pursuits. Proactive social participation and regular leisure activity can help elderly individuals with abundant time after retirement to overcome solitude and feelings of isolation and boredom, as well as enhancing their satisfaction in life, thereby reducing the level of depression in these individuals (Huh and Yoo, 2002). Voluntarily engaging in the social activities of their choice with meaningful acquaintances and forging a close relationship can help seniors prevent failure to adapt to the loss of role and the psychological consequences thereof.

Previous studies regarding the impact of seniors' social participation on depression are as follows. Firstly, the more involved seniors are in social activities, the more satisfied and the less depressed they tend to be, which indicates a negative correlation between the level of social activities and depression. A negative correlation also exists between the frequency of participation in leisure activities, social interaction, travel, sports, volunteer work, and depression (Kim, 2001; Bae, 2002). Research has shown that senior groups who participate in social activities tend to be more satisfied with their lives than their inactive counterparts. As a consequence, the former group tends to feel less depressed, excluded, or lonely (Byard, et al., 2004), and seniors with low levels of participation have been reported to feel more isolated and older (Park and Jung, 2005; Fontalba, et al., 2007). A very close link exists between seniors' activities and their adaptation to aging, with the more active group adapting more effectively than the inactive one. Therefore, the primary objective of this study was to determine the manner in which the social

activities of seniors influence depression.

3. Fear of Death in Old Age

Very few studies on seniors' fears of death in Korea have been conducted thus far, relative to the numbers of studies concerning depression and other psychological factors. The fear of death is a psychological process experienced by humans who feel anxiety, dislike, rejection, denial, and other negative emotions about death itself or in the process of dying (Aizenberg, 2006). In particular, as seniors do not have much time left and are approaching the end of life, death anxiety can strongly affect every aspect of the lives of older adults. Thoughts and concerns regarding imminent death in advanced age appear to exert a significant impact on geriatric depression, because this condition is characterized by despair about physical changes, hypochondriac complaints, and feelings of emptiness. However, little data is currently available to explain this phenomenon.

This section details previous research conducted at home and abroad regarding the fear of death in old age. Studies regarding the effects of seniors' socio-demographic variables on fear of death explain why the levels of death fear tend to be stronger in female seniors than in male seniors, because the former group tends to be less socially interactive than the latter group. While a significant correlation has been demonstrated between age, having children, daily activities, economic status, and fear of death in elderly females, age and monthly family income were factors correlated with fears of death in elderly males.

The revealed post hoc analysis noted significant differences among male seniors in accordance with age, married life, and co-residence with children (Babara and Haight, 1995). However, there have also been some studies in which no correlation was found to exist between gender and fear of death (Barak, 2004), whereas some studies have drawn the contrary conclusion that male seniors have more fear of death than female counterparts (Kaplan, et al., 1995). Additionally, studies of the level of death fear in married couples with and without children and unmarried people have demonstrated no significant correlations between living with children or not and death anxiety (Scoco and DeLeo, 2002). On the other hand, in the previous study of Seo

(2006), which compared seniors in the United States with Korean seniors, it was determined that a link exists between married life, living with children or not, and fear of death in Korean seniors, whereas fear of death in American seniors are associated with educational level, subjective perceptions of one's own health condition, and level of social involvement. It can, thus, be concluded that Korean seniors' death fear can be explained, at least in part, by the individual's family situation.

As such, previous studies regarding fear of death in older persons have yielded mutually contrary and inconsistent results, and the majority of these studies were conducted more than 10 years ago. Clearly, a meager amount of research has been conducted regarding death fear in the elderly, in comparison with other psychological factors, including depression.

Ⅲ. Methodology

1. Participants and Data Collection

The participants included 300 senior citizens aged 60 and over in Seoul and Kyonggi Province. 245 participants lived at home and attended senior welfare centers, whereas the 55 remaining individuals were institutionalized. Data was gathered via questionnaire, and some questionnaires were filled by the research assistants for illiterate seniors or those with failing eyesight. Among the 284 questionnaires collected, 67 were intentionally disregarded because they were incomplete and thus inappropriate for analysis. Accordingly, the remaining 217 questionnaires were ultimately utilized in this study.

2. Measurements

1) Social Activities Scale

Social Activities Scale developed by Kim (1988) was used to measure seniors' social activity

level. KIM's social activities scale consists of 40 questions on 7 sub-areas of activities as a grandparent, a parent, a spouse, a friend, a relative, a group member, and a believer on a five-point rating scale. This study selected 4 questions determining the level of social activities as a group member because all the participants of this study were attending senior welfare centers or living in the facilities. Therefore, among the sub-areas of Kim's scale, group member was a sub-area substantial enough to be utilized in this study. The Cronbach's alpha coefficient of group member sub-scale was .71, indicating its internal consistency.

2) Fear of Death Scale

A three-point rating scale including 25 questions developed by Thorson and Powell was employed to determine the level of death fear in seniors. Testing the internal consistency of this scale on 90 people in the research conducted by Johnson and Walker (1996) resulted in a Cronbach's alpha coefficient of .92, with a test-retest reliability of .96, via a factor analysis involving 7 sub-factors.

This study looked at 217 subjects, using principal component analysis as its extraction method, in which factors were extracted after eight repeated rotations, applying Varimax rotation coupled with Kaiser normalization. Each of the sub-factors is extracted by asking 10 questions regarding immobility and isolation, 5 on painful death, 5 concerning the decay of the body, 3 on facing death, and 2 on life after death. The descriptive power of these factors was 64.7%. The internal consistency of sub-factors in fear of death were as follows: .89 as the Cronbach's alpha coefficient of immobility and isolation, .84 of painful death, .78 of decaying body, .73 of facing death, and .68 of life after death. The overall internal consistency of the death fear scale showed a Cronbach's alpha coefficient of .84.

3) Geriatric Depression Scale

The Geriatric Depression Scale Short Form-Korean Version was employed to measure the level of depression in the elderly. In the Geriatric Depression Scale Short Form-Korean Version,

a revision of the Yesavage Geriatric Depression Scale, Cronbach's alpha coefficient equals .88, split-half reliability .88 and test-retest reliability .93 (Li, 1995). This scale asked respondents a series of true or false questions, and the questionnaire contained 15 questions in total. The internal consistency of the scale was tested, and the results demonstrated that the research conducted by Hong (2000) reported a Cronbach's alpha coefficient of .60; in the present study, the Cronbach's alpha was .76.

3. Data Analysis

The data analysis conducted in this study was computed using SPSS WIN 15.0 program. Frequency and percentage were calculated to assess seniors' socio-demographic characteristics, depression level, social activities, and fear of death. To determine the differences in depression levels depending on variables, t-tests and ANOVA were employed and post hoc analyses were conducted using Duncan's test. To find a link between depression, social activities, and fear of death, Pearson's correlation coefficient was calculated. Hierarchical multiple regression analyses were conducted to identify the predictive variables that affect depression among socio-demographic factors, social activities, and fear of death.

Ⅳ. Research Results

1. Characteristics of Research Population

The socio-demographic characteristics of the participants are as follows <table 1>. Among the total 217 subjects, women accounted for 59.4%, men 42.2% and the average age was 70.5 years(male: 69.7 years old, female: 71.3 years old). Those who practiced a religion, regardless of gender, accounted for more than 70%, with Buddhism the most widely practiced. Those with a high school diploma made up 29.5%, those with a college degree 20.7%, and those who received no formal schooling 12.9%; these percentages are relatively representative of the gener-

al population.

The majority (51.6%) were married and lived with their spouse (30.9%), and 27.2% of the participants were living on their own, without children. Those who perceived their own health as good constituted 36.9% of the participants, and those who adjudged their own finances as average or above accounted for 59.5%. Those who had retired more than 10 years before accounted for the largest proportion of the participants, at 37.8%, followed by those who still had a job at 34.1%. The largest number of seniors procured economic and emotional support (hereinafter "support") themselves. Then the second largest number of seniors got the support from their eldest son.

Table 1. Socio-Demographic Characteristics (N=217)

Variable	Item	Prequency(n)	Percentage(%)	Variable	Item	Frequency(n)	Percentage(%)
Gender	female	129	59.4	Age	under 65	40	18.4
	male	88	40.6		65~70	75	34.6
					70~75	58	26.7
					75 over	44	20.3
Religion	No	40	18.4	Education	no school	28	12.9
	buddhism	95	43.8		elementary	34	15.7
	christian	36	16.6		middle	46	21.2
	catholic	31	14.3		high	64	29.5
	confucianism	7	3.2		college	45	20.7
	other	8	3.7				
Marital Status	married	112	51.6	Living Arrangement	alone	59	27.2
	bereaved	75	34.6		with spouse	67	30.9
	separated	10	4.6		with children	54	24.9
	divorced	15	6.9		institution	30	13.8
	never married	5	2.3		other	7	3.2
Health Condition	very healthy	21	36.9	Economic Status	wealthy	19	8.8
	healthy	80	9.7		comfortable	35	16.1
	so so	40	18.4		average	75	34.6
	unhealthy	45	20.7		poor	48	22.1
	very unhealthy	31	14.3		very poor	40	18.4
Retirement Years	working	74	34.1	Support Provider	eldest son	45	20.7
	less than 5	25	11.5		all the sons	15	6.9
	less than 10	36	16.6		not eldest son	7	3.2
	more than 10	82	37.8		daughters	6	2.8
					all children	26	12.0
					independent	82	37.8
					facilities	36	16.6

2. Depression Level Depending on Socio-Demographic Variables

In order to determine what effects socio-demographic factors exert on depression levels among the participants, t-tests, ANOVA, and Duncan's tests were conducted. As a result <table 2>, age was shown to significantly affect the level of geriatric depression(P<.05). The post hoc analysis showed that depression is aggravated once a senior turns 75. The level of education, health condition, and economic status differed significantly in terms of their geriatric depression levels(P<.001). Also, the post hoc analysis revealed a significant difference among high school graduates, middle school graduates, and the uneducated. We noted a meaningful difference between the group with a positive personal perception of their health and economic status and the group with a negative view thereof, thus indicating that education levels and health condition and economic status influence the levels of depression in senior citizens.

Marital status was associated with a significant difference(P<.05) in depression levels, with seniors never married tending to have a higher level of depression than their married counterparts. Although this result turned out to be statistically significant, it is difficult to be reliable because of small sample size. Also, the post hoc analysis demonstrated that those who had retired more than 10 years before were significantly more depressed than those who were within 10 years of retirement. A meaningful difference was determined to exist(P<.01), depending on who was supporting the senior citizen. It is suggested that seniors supported by a child or children other than the eldest son tended to be meaningfully more depressed. The results of this study demonstrated that gender, religiosity, and living arrangement did not affect depression levels to a significant degree.

3. Correlation of Depression with Social Activities and Fear of Death

The correlation of depression with social activities and fear of death revealed a negative correlation between depression and social activities (P<.001), a positive correlation between depres-

Table 2. Depression Depending on Socio-Demographie Variables

	Variables	Depression Levels				
		N	M	SD	F/t (P)	Duncan
Gender	ⓐ Male	129	20.41	3.28	-1.523	
	ⓑ Female	88	20.85	3.19	(.128)	
Age	ⓐ under 65	40	20.34	3.55		
	ⓑ 65-70	75	20.42	2.90	3.509	abc, d
	ⓒ 70-75	85	20.46	2.99	(.015)	
	ⓓ 75 over	44	21.50	3.51		
Religion	ⓐ Yes	177	20.38	2.39	- .970	
	ⓑ No	40	20.73	3.24	(.333)	
Education	ⓐ No school	28	22.19	2.39		
	ⓑ Elementary	34	21.60	2.80	11.497	ed, cb, ba
	ⓒ Middle	46	20.93	2.96	(.000)	
	ⓓ High	64	20.00	3.66		
	ⓔ College	45	19.58	2.93		
Marital status	ⓐ Married	112	20.36	3.11		
	ⓑ Bereaved	75	21.01	3.28	3.173	adbc, e
	ⓒ Separated	10	21.13	3.28	(.014)	
	ⓓ Divorced	15	20.80	3.22		
	ⓔ Never married	5	24.60	5.50		
Living arrangement	ⓐ Alone	59	20.81	3.09		
	ⓑ with spouse	67	20.39	3.14	3.356	
	ⓒ with children	54	22.12	3.11	(.085)	
	ⓓ Institution	30	21.33	3.05		
Health condition	ⓐ Very Healthy	21	18.97	3.01		
	ⓑ Healthy	80	20.10	2.74		
	ⓒ so so	40	21.10	2.81	16.444	a, bc, cb, e
	ⓓ Unhealthy	45	22.01	2.48	(.000)	
	ⓔ Very unhealthy	31	23.39	3.21		
Economic status	ⓐ Wealthy	19	18.20	2.39		
	ⓑ Comfortable	35	19.61	2.80	14.979	abc, cd, e
	ⓒ Average	75	20.35	2.96	(.000)	
	ⓓ Poor	48	22.12	3.66		
	ⓔ Very poor	40	24.79	3.14		
Retirement years	ⓐ Working	74	20.86	3.09		
	ⓑ less than 5 years	25	20.10	3.14	3.117	cba, ad
	ⓒ less than 10 years	36	20.04	3.27	(.026)	
	ⓓ more than 10 years	82	21.06	3.33		
Support provider	ⓐ Eldest son	45	20.69	3.01		
	ⓑ All the sons	15	21.66	2.74		
	ⓒ Not eldest son	7	22.55	2.81	3.394	feadgb, c
	ⓓ Daughters	6	21.17	2.48	(.000)	
	ⓔ All children	26	20.47	3.18		
	ⓕ Independent	82	20.07	3.25		
	ⓖ Facilities	36	21.44	3.50		

* N (Number)   M (Mean)   SD (Standard Deviation)

sion and fear of death (P<.001), and a negative correlation between social activities and fear of death (P<.001) <Table 3>.

Table 3. Correlation of Depression, Social activities, Fear of Death

	Depression	Social Activities	Fear of Death
Depression	1		
Social Activities	-.257***	1	
Fear of Death	.154***	-.165***	1

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

Studying the correlation of depression with sub-factors of social activities and fear of death revealed a negative correlation between depression and the sub-factors of social activities, including the number of social groups the seniors joined, the level of participation, the level of volunteering, and the level of closeness (P<.001). In terms of the correlation between sub-factors of death fear and depression, immobility and isolation and painful death were the sub-factors that evidenced a significant positive correlation <Table 4>.

Table 4. Correlations of sub-factors of Depression, Social Activity, Death Anxiety

Variables	Sub-variables	Depression
Social Activities	No. of Social Groups	-.214 ***
	Participation	-.129 ***
	Volunteering	-.224 ***
	Closeness	-.165 ***
Death Fear	Immobility and Isolation	.104 **
	Painful Death	.236 ***
	Decaying Body	.060
	Facing Death	.069
	Life After Death	-.064

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

4. Major Factors Affecting Geriatric Depression

A hierarchical multiple regression analysis was employed to determine the factors that affect depression, with socio-demographic variables, social activities and fear of death used as independent variables. The socio-demographic variables include age, education, health condition, economic status, the period of retirement years, and support provider. Some factors were rendered dummy variables in order to transform qualitative variables into quantitative ones, as follows.

"Marital Status"(living with spouse=1), "Living Arrangements 1"(living alone=1, other living arrangements=0) and "Living Arrangements 2"(living with spouse=1, other living arrangements=0) to see living arrangements separately as living alone, living with spouse only, living with children, and the "Supporter Provider" were turned into dummy variables: "Supporting responsibility 1#"(living independently=1, others=0) and "Supporting responsibility 2#"(facilities=1, others=0). Prior to regression analyses, a VIF test was conducted in order to screen for multicollinearity among independent variables, which resulted in a tolerance limit in excess of .10 and a VIF value of less than .10, indicating no multicollinearity issues.

Studying the impact of socio-demographic variables on geriatric depression in the first phase showed that education, health condition, and economic status all exerted significant effects. Socio-demographic variables explained 17% of geriatric depression. With the social activities factor being added in the second phase, education, health condition, and economic status were identified as significant variables, and the number of social groups turned out to be relatively influential factors among the other social interaction-associated factors. Collectively, socio-demographic and social activities variables explained 21.4% of depression in elderly individuals. Social interaction variables accounted for 4.4% of geriatric depression, thereby indicating that seniors' perceptions of their own health and economic status affects geriatric depression more profoundly than their social activities.

When the fear of death variable was put in the third phase, 3.4% of geriatric depression was explained by the death fear variable, whereas 24.8% of geriatric depression was explained by the socio-demographic variables, social activities, and fear of death

combined. Analyzing the impacts of seniors' socio-demographic factors, social activities, and fears of death on geriatric depression revealed that seniors' education, health condition, economic status, living arrangements, the number of social groups, painful death, and life after death were the factors predictive of geriatric depression <Table 5>.

Table 5. Hierarchical Regression Analysis of Geriatric Depression

Factors	Variables	Depression		
		Phase 1	Phase 2	Phase 3
		β	β	β
Socio-demographic Traits	Age	.071	.073	.063
	Education (high, college=1)	-.170**	-.141*	-.111*
	Condition Living Arrangements 1# (living alone=1)	-.053	-.041	-.031
	Status Living Arrangements 2#(living w/spouse=1)	-.083	-.099	-.116 *
	Health (unhealthy=1)	.233 ***	.212 ***	.181 ***
	Economic (poor=1)	.190 ***	.182 ***	.181 ***
	Retirement Years	-.032	-.012	.012
	Support Provider 1# (independent=1)	-.051	-.041	-.031
	Support Provider 2# (facilities=1)	-.083	-.099	-.116 *
Social Activities	No. of Social Groups		-.101**	-.100*
	Participation		-.079	-.070
	Volunteering		-.020	.003
	Closeness		-.055	-.053
Fear of Death	Immobility and Isolation			-.032
	Painful Death			.192**
	Decaying Body			-.015
	Facing Death			.020
	Life After Death			-.100*
	Constant	13.969	16.453	15.363
	F	9.496	7.693	6.772
	P	.000	.000	.000
	R2	.17	.214	.248

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

V. Conclusion and Suggestions

1. Summary of Results

The purpose of this study was to detect and identify the socio-demographic variables most profoundly associated with geriatric depression, an emerging and significant problem with seniors' psychological and social adaptation. This study also tried to provide basic information necessary for the development of senior counseling programs by analyzing the relative effects of socio-demographic variables, social activities, and fear of death upon the level of geriatric depression. The results of research based on the analysis are as follows.

First, based on the table 2, the levels of geriatric depression relative to socio-demographic variables differed markedly according to seniors' age, education, health condition, and economic status. This is consistent with the results of previous studies (Kyung and Yoo, 2000; Koh et al., 2001; Huh and Yoo, 2002; Tak et al., 2003; Choi, 2003). In this study, it was demonstrated that older seniors without much formal schooling, seniors who perceived their health and economic status as poor were relatively more depressed, and all of these are major targets of programs designed to ameliorate geriatric depression.

Second, as shown in the tables 3 and 4, studying the correation of geriatric depression with social activities and fear of death resulted in the identification of a negative correlation between depression and social activities and a positive correlation between depression and fear of death. Subfactors of social activities, including the number of social groups, participation, volunteering, and closeness were all negatively correlated with depression, whereas subfactors of fear of death, including concerns regarding painful death and immobility and isolation, were positively correlated with depression.

These results match those of previous studies (Shin and Lee, 2002; Kang, 2009) in which it was concluded that the more involved seniors were in social activities, the more satisfied and less depressed they were. This shows that there is a clear need to develop programs in order to encourage seniors to participate more in social activities as a component of efforts to prevent geriatric depression. In particular, as the number of households that consist of only senior cou-

ples or seniors who live alone has increased recently, depression in elderly individuals can be ameliorated by providing more opportunities for seniors to engage actively in social interaction and community activities.

Geriatric depression and fear of death were positively correlated, and this was particularly true when seniors feared becoming immobile or becoming separated from their loved ones, or when they had fears of dying a painful death. Geriatric depression is characterized by despair regarding the physical changes induced by aging, hypochondriac complaints, and feelings of emptiness due to ideation that life is meaningless. As elderly individuals inevitably feel that their deaths are imminent, death anxiety is a variable that exerts a profound impact on their entire lives, and specifically on depressive emotions.

Third, as shown in the table 2, the post hoc analysis revealed that living arrangement among socio-demographic variables did not significantly affect the level of geriatric depression. However, the result of hierarchical multiple regression analysis, according to the table 5, demonstrated that senior couples who lived by themselves were very depressed. Previous studies concerning the impact of marital status on geriatric depression demonstrated that those who were living without their spouse and senior couples who lived alone or far away from their children were more depressed than those who lived with their spouse or children (Koh, et al., 2001; Shin and Lee, 2002; Choi, 2003; Kang, 2009). Previous studies to determine the impact of living arrangements on depression in elderly individuals concluded that seniors who lived alone were more likely to develop depression than those who lived with others (Seo, 2006; Hwang and Kim, 2008). The results of this study also suggested that living arrangement might generate significant differences in geriatric depression.

The inquiry into the correlation of geriatric depression with social activities and fear of death demonstrated that social activities were more markedly correlated with depression, whereas the results of hierarchical regression analysis showed that only the number of groups of seniors who participated, among other social interaction factors, turned out to be a variable predictive of depression. Looking into the correlation between depression and fear of death showed that a significant correlation could be drawn between depression and immobility and isolation, and painful death among the sub-factors of fear of death, while life after death was shown to be positively,

if not significantly, correlated with depression.

The hierarchical multiple regression analysis of a relative effect on depression indicated that the number of social groups that tells how actively seniors participate in social groups and life after death were major variables predictive of depression. These results point to the clear need for education and counseling programs to ensure that seniors have more opportunities to participate in various social activities, and to reduce their fears regarding life after death. When only socio-demographic variables were entered into the hierarchical multiple regression analysis, depression was explained 17%. When social activities and fear of death variables were added into the hierarchical multiple regression analysis, depression was explained 24.8%. Accordingly, this difference indicates a need for social and psychological measures to help mitigate seniors' fear about death, and lessen their depression.

2. Conclusion and Suggestions for Further Study

The conclusions can be drawn from the findings of this study. First, it can be asserted that seniors without a great deal of formal education or seniors who experience physical and financial difficulties, seniors whose spouses passed away before they did, and divorced seniors are all more likely to develop depressive symptoms. Those who retired more than 10 years ago and those who are supported by sons other than the eldest son were shown to be more depressed. These research findings appear to reflect the realistic difficulties experienced by seniors who are not cared for by their children, owing to changes in the family structure as well as family values unique to Korean seniors who have high expectations of their eldest son. This merits our attention, as seniors will live much longer after retirement in the future, due to longer life expectancy and more early retirees.

Second, geriatric depression is correlated with weak social participation and interaction between seniors. Thus, a variety of social activity programs must be developed to foster more opportunities to participate in social activities and interactions as a means to prevent seniors from falling into depression. Seniors tend to be fearful of and anxious about death; this is linked deeply to depressive emotions, as seniors tend to feel that death is more imminent than in any other age group. This fact demonstrates that counseling programs designed to lessen geriatric

depression levels must deal with death and death anxiety.

Third, regarding the effects of socio-demographic variables, social activity and fear of death in the context of elderly depression demonstrated that socio-demographic variables have a more profound impact on depression in elderly individuals than social activity and fear of death. However, social activity and fear of death were identified as meaningful predictive variables of geriatric depression. Studying the relative impact of these variables' sub-factors on depression showed that education levels, subjective assessments of health and financial status, the current living arrangement, the number of social groups involved, fears of a painful death, and anxieties about the afterlife turned out to be major predictive variables of depression. In particular, the current living arrangement turned out to be a major predictive variable in geriatric depression because seniors seemed to prefer to live alone with their spouses to living with children or living by themselves. In other words, seniors tend to feel more comfortable when they lived with their spouses only than when they lived with their children and had disputes with them.

Among the sub-factors of the number of social groups involved and fear of death, painful death, and life after death as influential predictive variables in geriatric depression. Characteristics of geriatric depression include worries, gloom, lethargy, a feeling of worthlessness due to despair over losing social activities and physical changes by aging, as well as frequent instances of depressive delusion such as nihilism and persecutory delusion. As a component of the effort to help seniors ameliorate their depressive symptoms, it should prove useful in the development of programs designed to encourage seniors to participate in social activities, and to relieve their anxieties regarding the imminent death by training them to accept it. The results of this study may serve as an important source of information to help devise senior welfare policies and practical strategies, and also as basic data with which the target group, theme, and objectives of senior counseling and education programs can be identified.

This study makes a significant contribution in that it suggests a need for social and psychological interventions to relieve depression in seniors, as well as methods to put the ideas into action by analyzing the impacts of socio-demographic factors, social activities, and death anxiety on geriatric depression. The limitation of this study as well as the suggestions of further study are as follows.

First, sampling was conducted only in the Seoul and Kyunggi areas, and random sampling was not rigorously complied with, although senior welfare centers, in various districts of Seoul and Kyunggi were selected in a balanced and equal manner. Second, some limitations exist in regard to the questionnaire-based quantitative research method. It is possible that respondents may provide superficial or self-defensive answers rather than answers that come from their deep consciousness when the levels of depression and death fear are measured on a scale. Thus, further studies based on a combination of quantitative and qualitative research methods should prove useful. Third, this study focused on depression and fears of death among the variables relevant to mental health in senior citizens. There exists a further need to address other psychological variables such as ego integrity and self-esteem, in addition to depression and fear of death, in order to develop methods for the promotion of seniors' mental health and to develop a variety of specific group counseling programs tailored specifically to seniors' characteristics.

Fourth, the results of this study provide us with basic data as to which programs may best help seniors relieve depressive emotions, by analyzing the sub-factors of death fear that affect depression. A clear need exists for follow-up research to be conducted on the efficacy of programs designed to alleviate depression and death fear. Fifth, the manner in which seniors perceive their health and financial status constitutes a predictive variable in geriatric depression, among other socio-demographic variables. This result indicates that some institutional tools will be necessary to consider low-income seniors' livelihoods and health, while helping seniors to accept their own physical aging and their deprivation from their accustomed social and economic activities.

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사회활동과 죽음에 대한 공포가
노인 우울에 미치는 영향

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　본 연구의 목적은 인구사회학적 변수들을 사용하여 노인들의 우울정도를 파악하고, 인구사회학적 변수들, 노인들의 사회활동, 죽음에 대한 공포 간의 관련효과를 분석하여 노인 상담프로그램 개발을 위한 기본 정보를 얻고자 하는데 있다. 연구의 대상자는 서울과 경기도에 거주하는 217명의 노인이다. 본 연구는 2010년 2월 22일부터 3월 15일 사이에 수행되었으며, 노인성 우울, 사회활동, 그리고 죽음에 대한 공포를 포함한 설문지를 사용하여 자료를 수집하였다. SPSS WIN 15.0을 이용하여 분석한 결과, 첫째, 인구사회학적 변수들 중에서 노인 우울에 영향을 미치는 것은 연령, 결혼상태, 교육, 건강상태, 경제적 상태, 퇴직 이후의 기간, 부양자 유무였다. 둘째, 노인 우울 정도는 사회활동 수준과는 반비례 관계가 있는 반면, 죽음에 대한 공포와는 정비례 관계에 있었다. 셋째, 노인 우울을 예측할 수 있는 변수는 교육, 건강상태, 경제적 상태, 참여하는 집단의 수, 고통스러운 죽음, 사후의 삶에 대한 기대감 등이었다. 본 연구에서 도출된 결론을 통해 사회복지 실무에 미치는 함의 및 향후 연구방향에 대한 제언을 덧붙였다.