

A Study on the Influence on Mental Health of Participants of the Job Creation Project for the Japanese Elderly

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[Abstract]

This research aims to analyze the effects on the Subject's mental health of the Job Creation Project for the elderly in Japan. The subjects of this survey in 2007 were about 1500 participants in the Job Creation Project of Silver Manpower Center in Japan, 970 cases of whom were data-analyzed. The results of this research are as follows:

First, as a result of descriptive statistics of mental health, it was unders food that the average of total mental health is 2.91. As a result of verification of mental health difference, the score of mental health showed significant difference statistically according to job type or motivation of participation, and no significant difference statistically according to satisfaction with job project or duration of participation. With respect to job types, mental health is higher in desk job or management/inspection or technical work than in simple work. Also among the motivations of participation mental health is highest for participation in society than for income.

Second, a hierarchical multiple regression analysis was performed by including population-sociological properties variables and four subordinate variables of actual conditions of participation in the Job Creation Project for the Elderly in order to analyze the variables which influence the participant mental health. According to the result of analyzing the effects on total mental health, male gender and better physical health condition were seen to have positive effects on total mental health.

It is noted that among the motivations of participation, participation in society, and satisfaction with the Job Project, had positive influence.

[Key words]

mental health, Job Creation Project for the elderly, job types, motivations of participation, duration of participation, satisfaction with job project.

I. Introduction

According to the rapid growth of the aging society¹, a sudden increase of medical expenses of the elderly over 65 years is expected to raise the government's financial burden in the near future. It is shown that one third to a half of National Health Expenditure has been spent on the elderly over 65 years in most of the OECD-member countries. In Japan, the risk of disease in the elderly is higher than the average, which means that 47% of total National Health Expenditure is used for the elderly population over 65 years in Japan. In Korea, the rate of medical expenses of over 65 years increased from 10.8% in 1999 to 24.4% in 2005 and it is presumed to reach about 31.8% in 2025. In expectation of the increase of medical expenses for the elderly, it is required to prepare an urgent countermeasures.

In accordance with fast development of aging, various problems including feeling of alienation and deprivation as well as diseases have emerged. Facing the necessity of alternative plans and organization of social environment for successful aging, Korean government started to implement the Senior Employment Promotion Project in 2004, which is a productive welfare for the aged, in order to improve quality of life, to develop an opportunity to participate in society and to guarantee income security. In Japan, economic welfare for the aged became one of the main goals of national policy and Social Security for the elderly's economic security and various employment programs, especially job project through Silver Manpower Center, have been carried out to provide for their economic independence.

The employment policy for the elderly in Japan is divided into three parts - continuous employment until 65 years, early re-employment for the elderly who want it and provision of temporary and short-period job after retirement - and is developed all over the country. In particular, the expansion of Silver Manpower Center is promoted for the provision of temporary and short-term jobs. The Job Creation Project for the Elderly by Silver Manpower Center is a business that not only provides "temporal, short-period and easy job" to the elderly but also enables them to reach self-realization and in consequence, contributes to local social welfare policy.

The Job Creation Project for the Elderly not only increases the opportunity for the elderly to participate in society and guarantees their income security but also has several secondary effects of improving their self-respect through social activity and productive activity and maintaining their health. The economic activity through job for old age guarantees their income, improves self-respect and reduces loneliness through social participation and a sense of belonging. In consequence, they recover their physical and mental health, at the same time, resolve complex problems which the elderly experience. Also, it helps to maintain their own self-identity and has a positive effect on forming better interpersonal relationships by treating depression and preventing cognitive disorder. Therefore, it has another function of reducing medical expenses for the elderly, providing against financial crisis of

¹ Recently, the birth rate has been steadily declining while the average life span is increasing thanks to the development of technology and medicine, which leads to aging in the whole society. Japan became an aged-society in 1994 and a super-aged society in 2007 and the aging rate is expected to be 25% in 2015. Korea became an aging-society in 2000 and is expect to be an aged society with 14.3% of aging rate in 2018 and a super-aged society with 20.8% in 2026.

health insurance by sudden increase of medical expenses for the elderly.

However the domestic and foreign research on the mental health of the elderly who participate in the economy, such as in the Job Creation Project for the Elderly, vary in results, so that it is difficult to generalize. A multi-dimensional and in-depth research is required. Furthermore, the Job Creative Project for the Elderly in Japan which had been started from 1974 is similar to The Job Creative Project for the Elderly in Korea in many ways (participants subjects, organization, scale, operation method and financial support by government), so this study would like to suggest proposals for its further development.

For there, this research has the goal of analyzing the effects of the Job Creation Project for the elderly in Japan on the participants mental health, and based on these research results, to make proposals for the development of the Job Project in Korea.

II. Prior Researches on Mental Health and the Job Creative Project for the Elderly

The Activity Theory by Havighurst and Neugarten (1969) suggested that as the elderly's participation in society is higher, they adapt to their old age more successfully with a higher satisfaction (Hazan, 1996; Blau 1973; Kart and Longino, 1987). Participating in society provides support of role required for individuals to identify their self-concept, which is necessary for establishing and maintaining self-image and consequently, useful for permanent healthy life (Lemon et al., 1972). The elderly's employment reinforces their self-esteem and helps maintain physical and mental health, releasing loneliness and alienation.

The logic that working has a positive influence on the elderly's health² has been verified by several domestic and foreign researchers noting that employment influences positively by bringing about social position and power, economic independence, and such noneconomic additional benefits, as social support and acknowledgement and feeling of success.

Employment improves the elderly's physical and mental health (Park Sang-gyu, 2006; Abramson, Ritter, Gofin and Kark, 1992; Heroz, House and Morgan,1991), and most studies note that employment has a positive effect on their health (Ross and Mirowsky, 1995; Wolfe and Haveman, 1983; Minkler,1981). Other studies says that if the elderly participate continuously in social activity, it will help their successful aging (Depp and Jeste ,2006; Hinterlong,2006; Klumb, 2004; Rowe and Kahn,1998). Abramson et al., (1992) examined positively the relationship between health and working with 1886 Israel elderly as research subjects and noted that working elderly are physically and mentally healthier and those who stop working get worse regardless of reason. Moore and Heyward (1990) analyzed that employment affects the elderly's health in the study on Health and Employment of old Aged People over 55 years using the data of National Longitudinal Survey of Mature Men.

² Elderly's health is a universal concept but the elderly's awareness of their health varies with the individual, and varies over time even in the same culture. Hippocrates pointed to the interrelation between body and mentality as indicating the health in tranquility and the importance of environment. In general, the elderly's health is divided into physical health and mental health

According to the 2006 report of National Silver Manpower Center Association in Japan, the subjective healthiness and satisfaction of the participants of the Job Creative Project for the Elderly increased and their medical cost decreased (National Silver Manpower Center Association in Japan, 2006). Also, in case of the participants in Senior Employment Promotion Project in Korea, their medical expenses were highly reduced and their health was improved (Lim Jae-yeong, Lee Seok-won, 2008; Lee Seok-won, Lim Jae-yeong, 2007). The medical cost-benefits are significant depending on whether the elderly participate or not and the duration of participation (Lim Jae-yeong, Lee Seok-won, 2008), and differs by participation and health condition before participation (Lee Seok-won, Lim Jae-yeong, 2007).

The term “Mental Health” has been defined variously by scholars in different cultures and according to Kim Dong-bae, An In-kyeong (2004:206), it means subjective well-being, self-efficacy, self-starting, interdependence and the relationship with others including an individual’s cognitive and affectional potential ability. Jahoda differentiates the dimension of the concept “mental health” into attitude toward self, growth, development, self-realization, integrity, self-autonomy, perception of reality and dominance of environment. That is, “mental health means overwhelmingly one’s environment, and with congruence and consistency, practical perception of the self and surroundings. Therefore, a mentally healthy person is one who functions effectively without imposing excessive demand on others (Son Deok-sun, 2006:124-125).

As a result of the relationship between 23,247 old people in 66~88 years in the longitudinal study (1997-2000) using National Health Interview Survey of USA, the employed elderly have a lower rate of depression than the unemployed and as the employed are physically health, their mental health is also good.

Socioeconomic status and the motivation of participation - financial or personal - are important explanatory variables in explain the difference of depression (Sharon, David, Lora, William et al., 2007). Some studies say that negative psychological symptoms in the employed elderly are less than in the unemployed (Santroke, 1995; Bosse, Aldwin, Levenson & Ekerdt, 1987) and that employment has a positive effect on depression (Lee Su-ae, Lee Kyeong-mi, 2002; Reites, Mutran, & Fernandez, 1996).

Participating in economic activity during early adulthood and middle years has a positive influence on an individual’s mental health (Kessler, Turner & House, 1989; Verbrugge, 1983). It is reported that mental health of the employed elderly is significantly better than the unemployed (KAWAMOTO Ryuichi, YOSHIDA Osamu, DOI Takaaki, 2004; Ross and Mirowsky, 1995). Lee Myung-ye (2004) suggests that employment does not affect the positive dimensions of mental health (a feeling of mastery, happiness and psychological tranquility) but does have a significant effect on negative dimensions (depression). Her result shows the effects of employment are different by dimensions of mental health. Prior research on the actual condition of the Job Creative Project for the Elderly are as follows.

In KIM, Ok-Hee, JEONG, Jong-hwa (2009)’s study, they decided on job type, motivation of participation, duration of participation and satisfaction with the job project as independent factors to examine the influence and different effects by gender of the Job Creation Project for the Elderly on

their quality of life. The quality of participants' life is not significantly different according to gender. The result is that in case of men participants, as they are healthier so they participate longer, their quality of life is more positively affected. And in case of women participants, as they are healthier, they participate longer and the job type is more private, and their quality of life is more positively affected. The variables of population-sociological properties to influence elderly's mental health were age, gender, education, without a spouse, physical health and economic situation (average monthly income).

III. Research Method

1. Research Subject and Data Collect on Method

We distributed 1,500 questionnaires through each local Silver Manpower Center and received 1,038 responses. Among them, we selected 970 as final research subject by excluding answers with many blanks or without sincerity. In Japan, Silver Manpower Center Association is under the government and Silver manpower Center is under each local government. We sent official documents to each Silver Manpower Center with the help of the Association. The answered questionnaires were delivered by post. The data analysis method was as follows. The SPSS 14.0 for Windows was used to analyze the data, as analysis techniques, frequency analysis, independent sample t-test, one-way ANOVA, correlation analysis and hierarchical multi regression analysis were carried out.

2. Research Model and Tools

At first, in order to analyze the Job Creation Project for the Elderly in Japan, we examined the preceding researches on that project and decided that the independent variables are the actual condition of the Job Creative Project for the Elderly, that is to say, project types, motivation of participation, duration of participation and their satisfaction with that project. The types of job are as follows: expert skill (translation, design, accounting), office work (address and name writing, general office work, document arrangement), control/inspection (facility control, equipment control), function (planting tree, driving, assembling, machine inspection), simple work (weeding, cleaning, miscellaneous services), and service (household chores, care service, childcare service). Mental health is set up as the dependent variable. The adapted GHQ 28 items of the Japanese version is used as an index of mental health. GHQ (General Health Questionnaire) is one of the indexes used to measure the elderly's mental health. Japanese scholars made GHQ range from 1 Point to 28 points of Goldberg D.P. & Hiller V.F into a Japanese version (NARITA Kenichi, 1994), and verified it for use in research and investigation of the elderly's mental health. The confidence level of research tools is Cronbach's $\alpha = .86$. Physical symptoms, anxiety and insomnia, social activity disorder and aggression are the subordinate factors. And age, gender, education, with/without a spouse, physical health and average monthly income are set up as variables of population-sociological properties to analyze the influences on mental health.

IV. Analysis Result

1. The Population-Sociological Properties of Research Subjects

When it comes to the population-sociological properties of research subjects, as in Table 2, men (the number:624, percentage: 67.5%) number more than women (301, 32.5%). 108 are under 65 years (11.8%), 302 are 65~70 years (32.9%), 331 are 70~75 years (36.0%) and 178 are over 75 years (19.4%) in age.

Table 2 Mental Health by General Properties

| | | N(%) | Mental Health | | |
|---------------------------|--------------------|-----------|---------------|------------------------|----------|
| | | | Mean(M) | Standard Deviation(SD) | t/F |
| Gender | Men | 624(67.5) | 2.06 | .37 | -3.53*** |
| | Women | 301(32.5) | 2.15 | .36 | |
| Age | Under 65 years | 108(11.8) | 2.07 | .34 | 1.23 |
| | 65 ~ 70 years | 302(32.9) | 2.11 | .36 | |
| | 70 ~ 75 years | 331(36.0) | 2.10 | .37 | |
| | Over 75 years | 178(19.4) | 2.04 | .39 | |
| Average Monthly Income | Under¥100,000 | 231(24.3) | 2.12 | .41 | 3.03* |
| | ¥100,000 ~ 150,000 | 179(18.8) | 2.16 | .38 | |
| | ¥150,000 ~ 200,000 | 129(13.6) | 2.04 | .36 | |
| | ¥200,000 ~ 250,000 | 157(16.5) | 2.07 | .30 | |
| | ¥250,000 ~ 300,000 | 158(16.6) | 2.03 | .35 | |
| Education | Over ¥300,000 | 98(10.3) | 2.06 | .37 | .72 |
| | Uneducated | 2(0.2) | 2.06 | .15 | |
| | Elementary School | 28(3.1) | 2.12 | .44 | |
| | Middle School | 230(25.2) | 2.12 | .39 | |
| | High School | 436(47.8) | 2.07 | .35 | |
| | College | 54(5.9) | 2.13 | .35 | |
| | University | 157(17.2) | 2.07 | .35 | |
| Graduate School | 6(0.7) | 2.17 | .71 | | |
| With a Spouse | Yes | 748(81.6) | 2.07 | .36 | -3.03** |
| | No | 169(18.4) | 2.16 | .39 | |
| Physical Health Condition | Very Healthy | 156(16.1) | 1.93 | .35 | 23.84*** |
| | Healthy | 444(45.9) | 2.04 | .35 | |
| | Normal | 345(35.6) | 2.20 | .36 | |
| | Not Healthy | 23(2.4) | 2.23 | .35 | |

p< .01, *p< .001

In regard to the average monthly incomes, 231 of those who earned under ¥10,000 were the largest in number and in regard to educational background, those who graduated from middle school and high school, respectively 436 (47.8%) and 230 (25.2%), were in the majority. Married people with a living spouse numbered 169 (18.4%). In regard to their health condition, 444 responded to “healthy” (45.9%) and 156 to “very healthy” (16.1%). The result of examining the differences of mental health by population-sociological properties, as in Table 2, showed a significant difference by gender, average monthly income, without a spouse and health condition. By gender, women (M=2.15) scored more than men (M=2.16). Average monthly income came to ¥100,000~150,000 (M=2.16), under ¥100,000 (M=2.12), ¥200,000~250,000 (M=2.07), over ¥300,000 (M=2.06), ¥150,000~200,000 (M=2.04)

and ¥250,000~300,000 (M=2.03) in that order. With a spouse (M=2.16) scored more than without a spouse (M=2.07). In health condition, the results were not healthy (M=2.23), normal (M=2.20), healthy (M=2.04) and very healthy (M=1.93) in that order (F=23.84, p=.000).

2. Descriptive Statistics of Mental Health

We examined the skewness and kurtosis to see the normal distribution of descriptive statistics and data. The result, as shown in Table 3, is that the average of total mental health is 2.91 and the average of subordinate factors is between 2.33~3.67. The highest scored subordinate factor is the anxiety (3.67) and the lowest is social activity disorder (2.33). The high score means good mental health. Also, Kline (2005) is considered to meet the standard that skewness is under 3 and kurtosis is under 10 in absolute value because the skewness is between -1.92~.16 and the kurtosis is between -.34~4.26.

Table 3 Descriptive Statistics of Mental Health

| | The number of case | Mean | Standard Deviation | Skewness | Kurtosis |
|--------------------------|--------------------|------|--------------------|----------|----------|
| Total mental health | 970 | 2.91 | .37 | -.52 | .93 |
| Anxiety | 970 | 3.67 | .47 | -1.92 | 4.26 |
| Physical symptoms | 970 | 3.01 | .60 | -.39 | -.34 |
| Social activity Disorder | 970 | 2.33 | .38 | -.16 | .53 |
| Insomnia | 970 | 2.66 | .66 | -.17 | -.24 |

3. The mental health difference according to the actual condition of participation in the Job Creative Project for the Elderly

The result of verifying the mental health difference by the actual condition of participation in the Job Creative Project for the Elderly is shown in <Table 4>.

Table 4 The Verification of Mental Health Difference by Variables of the Actual Condition of Participation in the Job Creative Project

| | | Persons | whole mental health | | | | | | | | | |
|-------------------------------|---------------------------------|-----------|---------------------|-----------|--------------------|------------|--------------------------|-----------|--------------------|-----------|--------------------|-----|
| | | | Anxiety | | Physical Symptoms | | Social Activity Disorder | | Insomnia | | Total | |
| | | | M | SD | M | SD | M | SD | M | SD | M | SD |
| Job Project Type | Expert Skill | 58 | 3.71 ^a | .45 | 2.87 ^b | .60 | 2.31 | .35 | 2.53 | .70 | 2.85 ^{ab} | .37 |
| | Desk Job | 63 | 3.76 ^a | .44 | 3.01 ^{ab} | .59 | 2.31 | .37 | 2.78 | .61 | 2.96 ^a | .34 |
| | Management/Inspection | 258 | 3.74 ^a | .36 | 3.12 ^a | .56 | 2.32 | .37 | 2.69 | .67 | 2.96 ^a | .34 |
| | Technical Work | 70 | 3.80 ^a | .32 | 3.10 ^a | .56 | 2.28 | .37 | 2.69 | .69 | 2.95 ^a | .34 |
| | Simple Labor | 238 | 3.56 ^b | .57 | 2.87 ^b | .64 | 2.32 | .39 | 2.59 | .64 | 2.83 ^b | .40 |
| | F(p) | | 6.69***(.000) | | 6.38***(.000) | | .17(.952) | | 1.86(.116) | | 4.85**(.001) | |
| Motivation of Participation | Income | 138 | 3.51 ^b | .54 | 2.95 | .58 | 2.37 | .43 | 2.55 ^b | .67 | 2.84 ^c | .40 |
| | Health | 175 | 3.68 ^a | .49 | 3.02 | .59 | 2.34 | .39 | 2.72 ^{ab} | .61 | 2.95 ^{ab} | .36 |
| | Use of Experience and Knowledge | 83 | 3.76 ^a | .37 | 3.04 | .64 | 2.28 | .39 | 2.73 ^{ab} | .77 | 2.95 ^{ab} | .38 |
| | Meaningful Life | 123 | 3.71 ^a | .37 | 2.94 | .64 | 2.31 | .33 | 2.58 ^b | .68 | 2.87 ^{bc} | .38 |
| | Participation in Society | 109 | 3.71 ^a | .44 | 3.15 | .50 | 2.31 | .36 | 2.80 ^a | .66 | 2.99 ^a | .31 |
| | F(p) | | 5.71***(.000) | | 2.26(.062) | | .90(.462) | | 3.05*(.017) | | 3.57**(.007) | |
| Satisfaction with Job Project | Satisfied | 765 | 3.70 | .44 | 3.03 | .59 | 2.30 | .39 | 2.68 | .66 | 2.92 | .36 |
| | Unsatisfied | 165 | 3.54 | .61 | 2.89 | .59 | 2.43 | .34 | 2.57 | .66 | 2.86 | .39 |
| | t(p) | | 3.15**(.002) | | 2.78**(.006) | | -4.13***(.000) | | 1.88(.061) | | 1.77(.073) | |
| Duration of Participation | Under 6 months | 49 | 3.71 | .52 | 3.01 | .60 | 2.32 | .40 | 2.70 | .65 | 2.92 | .37 |
| | 6 months ~ 1 year | 47 | 3.64 | .54 | 2.98 | .69 | 2.33 | .33 | 2.65 | .71 | 2.90 | .38 |
| | 1 ~ 2 years | 83 | 3.70 | .43 | 3.04 | .61 | 2.39 | .38 | 2.59 | .71 | 2.93 | .38 |
| | 2 ~ 3 years | 123 | 3.65 | .44 | 3.08 | .52 | 2.30 | .37 | 2.74 | .54 | 2.94 | .31 |
| | 3 ~ 5 years | 551 | 3.68 | .47 | 3.00 | .60 | 2.33 | .39 | 2.67 | .68 | 2.92 | .37 |
| | Over 5 years | 8 | 3.73 | .37 | 3.10 | .43 | 2.14 | .42 | 2.62 | .41 | 2.90 | .23 |
| F(p) | | .22(.954) | | .47(.796) | | 1.01(.409) | | .55(.736) | | .13(.985) | | |

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

(a , b, c is the result of post-hoc analysis so there are differences between groups)

The mental health results show significant difference statistically according to job types or motivation of participation, and no significant difference statistically according to satisfaction with job project or duration of participation. With respect to job types, mental health is highest in desk job, management/inspection or technical work than in simple work. Also mental health is highest in participation in society than in income among the motivation of participation.

Comparing subordinate factors, when it comes to anxiety, in technical work (3.80) among job types, anxiety is shown to be the lowest (F=6.69***) of all, and in Use of Experience and Knowledge (1.49) as a motivation to be lower than any other (F=5.71***). In regard to satisfaction with job project, anxiety is low in satisfaction (1.46) (t= 3.15**). The anxiety by duration was not significantly different. In regard to physical symptoms, there were no physical symptoms in management/inspection (M=3.12,

F=6.38***) or technical work (M=3.10, F=6.38***) among the project types and in satisfaction (3.03) so mental health is considered to be good (t=2.78**). There was no significant difference in physical symptom factors by motivation and duration.

There was no significant difference in the factor of social activity disorder by job project type, motivation and duration. In regard to insomnia, in case the motivation is participation in society (M=2.80, F=3.05*) than income, mental health is thought to be good as insomnia is low. There was no significant difference in insomnia by job project type, satisfaction with the project or duration.

4. The effect analysis of variables that influence the participant's mental Health

We performed hierarchical multiple-regression analysis by putting population-sociological properties variables and four subordinate variables of actual condition of participation in the Job Creation Project for the Elderly in order to analyze the variables which influence the participant's mental health. Among population-sociological properties variables, we decided on gender and with a spouse as dummy variables. We analyzed multiple-regression model as dividing first stage model 1 and second stage model 2. For the former only population-sociological properties variables were used and to the latter were added the variables of actual condition of participation in the job project to model 1. Only, before conducting multiple-regression analysis, we measured Biserial correlation coefficient and Pearson's correlation coefficient between independent variables to examine multicollinearity and most was under .50. That means it's not a problem. But we decided response area as dump variables in accordance with Stepwise Method which selectively put the most explicable variables, because there is in danger of multicollinearity between the response area of motivation of participation.

At first, according to the result of analyzing the variable effect on the whole mental health, as seen in <Table 5>, it is said to have positive effects on the whole mental health on condition that the gender is male and physical health condition is better (F=14.57**, R²=.09), showing that gender ($\beta=.08^*$) and health condition ($\beta=.27^{***}$) have an influence in model 1, which puts only population-sociological properties. In model 2 which adds the actual condition of participation in the Job Project to model 1, besides gender and physical health condition, participation in society of motivations of participation ($\beta=.07^*$) and satisfaction with the Job Project ($\beta=.08^*$) have an influence. That is, when the motivation is social participation and they are satisfied with the Job Project, the whole mental health becomes higher (F=6.76***, R²=.13). The explanation credence by Model 2 to which are added the factor of the actual condition of participation in the Job Project is shown to increase significantly, compared to model 1 (R² varying amounts=.04)

Table 5 Analysis of Variables that Influence the Participant's Mental Health

| Independent Variables | Whole Mental Health (Total) | | Factor 1 (Anxiety) | | Factor 2 (Physical Symptoms) | | Factor 3 (Social Activity Disorder) | | Factor 4 (Insomnia) | |
|-------------------------------|-----------------------------|--------------------|--------------------|--------------------|------------------------------|--------------------|-------------------------------------|--------------------|---------------------|--------------------|
| | Model1 (β) | Model2 (β) | Model1 (β) | Model2 (β) | Model1 (β) | Model2 (β) | Model1 (β) | Model2 (β) | Model1 (β) | Model2 (β) |
| Gender(1) | -.08* | -.10* | .00 | -.01 | -.10* | -.08 | -.08* | -.11* | -.04 | -.06 |
| Age | .03 | .04 | .06 | .07 | .04 | .04 | .00 | .00 | .03 | .03 |
| Education | -.01 | -.01 | .02 | .00 | -.01 | .00 | -.01 | -.02 | -.02 | -.02 |
| With a Spouse(1) | .05 | .03 | .13*** | .11** | .03 | .03 | .03 | .04 | .00 | .03 |
| Physical Health Condition | .27*** | .26*** | .17*** | .15*** | .33*** | .31*** | .13*** | .10** | .24*** | .23*** |
| Monthly Income | .03 | .01 | .07 | .05 | .01 | -.01 | -.03 | -.02 | .01 | .03 |
| Job Types | Control/ Inspection | - | .06 | .09* | | .10* | | -.03 | | .00 |
| | Technical Work | - | .06 | .09* | | .07 | | -.06 | | .03 |
| Motive of participation | Meaningful Life | - | -.01 | .04 | | -.03 | | .03 | | .00 |
| | Participation in Society | - | .07* | .02 | | .07* | | .01 | | .07* |
| Duration of Participation | - | -.03 | | -.03 | | -.02 | | -.03 | | -.02 |
| Satisfaction with Job Project | - | .08* | | .14*** | | .08* | | -.11** | | .07* |
| F | 14.57*** | 6.76*** | 9.80*** | 5.25*** | 20.75*** | 8.77*** | 3.56** | 1.96* | 9.05*** | 4.08*** |
| R ² | .09 | .13 | .06 | .10 | .13 | .16 | .02 | .04 | .06 | .08 |
| Corrected R ² | .09 | .11 | .06 | .08 | .12 | .14 | .02 | .02 | .05 | .06 |

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

(VIF value of total mental health in Model 1 : 1.02 ~ 1.58, VIF value of total mental health in Model 2 :1.03 ~ 1.75)

Footnote 1) Dummy Variable (Gender - Female :1, With a Spouse - Yes :1)

2) Basic variable (job type)-expert skills,2)Basic (motivation)-use of knowledge& experience

When examining the effects on anxiety among subordinate factors, it is represented that with/ without a spouse ($\beta = .13***$) and health condition ($\beta = .17***$) have an influence in model 1 ($F = 9.80***$, $R^2 = .06$), and control/inspection ($\beta = .09*$) and technical work ($\beta = .09*$) among job types and satisfaction with the Job Project ($\beta = .14***$) have an influence in model 2 ($F = 5.25***$, $R^2 = .10$) The explanation credence is also higher in model 2 than in model 1 (R^2 varying amounts = .04). Next, in regard to the effects on the factors of physical symptoms, it is shown that gender ($\beta = .10*$) and health condition ($\beta = .33***$) have an influence in model 1 ($F = 20.75**$, $R^2 = .13$), and control/inspection ($\beta = .10*$) among job types, participation in society as the motivation ($\beta = .07*$) and satisfaction with the Job Project ($\beta = .08*$) have an influence in model 2 ($F = 8.77***$, $R^2 = .16$). The explanation credence is also higher in model 2 than in model 1 (R^2 varying amounts = .03). And in regard to the effects on the factors of social activity disorder, it is shown that gender ($\beta = .08*$) and health condition ($\beta = .13***$) have an influence in model 1 ($F = 3.56**$, $R^2 = .02$) and satisfaction with the Job Project ($\beta = .11***$) have an influence in model 2 ($F = 1.96***$, $R^2 = .04$). The explanation credence is also higher in model 2 than in model 1 (R^2 varying amounts = .02). Lastly, when examining the effects on the factors of insomnia, health condition ($\beta = .24***$) has an influence in model 1 ($F = 9.05**$, $R^2 = .06$), and participation in

society as the motivation ($\beta=.07^*$) and satisfaction with the Job Project ($\beta=.07^*$) have an influence in model 2 ($F=4.08^{***}$, $R^2=.08$). The explanation credence is also higher in model 2 than in model 1 (R^2 varying amounts=.02).

Therefore, these results suggest that anxiety and physical symptoms among subordinate factors of mental health decrease in conditions where the job type is control/inspection, and anxiety declines when the job type is technical work. Participation in society as the motivation influences the decrease of physical symptoms and insomnia factors but does not influence other subordinate factors. In addition, satisfaction with the Job Project has positive effects on decrease of physical symptoms and insomnia factors and consequently, allows better mental health. The factor of social activity disorder worsens mental health. The duration of participation does not have any influence on any subordinate factor.

V. Conclusion and Proposals

The results of this research and discussion are as follows:

First, in regard to the population-sociological properties of research subjects, by gender, a majority (67.5%) are men, 65-70 years and 70-75 years are more numerous than other age groups. In monthly income, many are under ¥100,000 and most are under ¥300,000. Most subjects graduated from middle school and the majority has a spouse. With regard to their physical health condition, most are healthy and a few are not healthy. The reason may be that they participate in the Job Creation Projects for the Elderly.

Second, we examined the skewness and kurtosis to see the normal distribution of descriptive statistics and data. The result, as is shown in <Table 3>, is that the average of total mental health is 2.91 and the average of subordinate factors is between 2.33~3.67. The highest scored subordinate factor is anxiety (3.67) and the lowest is social activity disorder (2.33). That score being high means good mental health.

Third, as a result of verification of mental health difference, mental health showed significant difference statistically according to job types or motivation of participation, and no significant difference statistically according to satisfaction with job project or duration of participation. With respect to job types, mental health is highest in desk job or management and technical work than in simple work. Also mental health is highest in participation in society than in income among the motivation of participation. In Japan, with regard to motivation of participation, there is one research that shows the importance of health (66.7%), participation in society (45.7%), meaningfulness of life (37.7), income (28.4) and employment condition in that order (Hanaoka Meguro et al. 2000) and another that shows health, income, meaningfulness of life and participation in society (Tatsu Nobuhiro, Nozaki Yuko, 2008). However, in most Korean studies, first, maintaining a living, among motivations of participation, is the highest, then comes meaningfulness of life, participation in society and health, in that order (Seo Yang-yeol, 2004; Gwon Gu-yeong, Park Gong-sik, 2007; Gwon Gu-yeong, Choi Jeong-min, 2007; Gwon Chi-yeong, Kim Sun-woong, Lim Jung-cheol, Lim Hong-jik,

2007). This difference in motivation of participation between Korea and Japan is thought to result from the fact that most elderly people in Japan are guaranteed income security by means of a pension so they can lead an economically secure life.

Fourth, we performed hierarchical multiple-regression by putting population-sociological properties variables and four subordinate variables of actual condition of participation in the Job Creation Project for the Elderly in order to analyze the variables which influence the participants mental health. The result of analyzing effects on total mental health, show that positive effects on total mental healths occur when the gender is male and physical health condition is better. It should be added that participation in society and satisfaction with the Job Project have an influence. That is, when the motivation is social participation and they are satisfied with the Job Project, mental health becomes higher. Therefore, these results suggest that anxiety and physical symptoms among subordinate factors of mental health decrease in conditions where the job type is control on inspection, and anxiety declines when the job type is technical work. Participation in society as the motivation influences the decrease of physical symptoms and insomnia factors but does affect other subordinate factors. In addition, satisfaction with the Job Project has positive effects on decrease of physical symptoms and insomnia factors and consequently, allows better mental health. The factor of social activity disorder worsens mental health. The duration of participation does not have any influence on any subordinate factor.

Proposals

1. The Job Creation Project for the Elderly in Japan is operated by Silver Manpower Center, a representative organization of Job Creation Project for the Elderly. This is kind of a national employment business, whose members organize and operate it independently and autonomously under the principle of “Cooperation and Mutual Assistance.” In contrast, the Job Creation Project for the Elderly in Korea is operated mostly by the government and hence is limited under the government. Korean situation is far from the independence or autonomy experienced in Japan.

Therefore, we need to change this hierarchical business structure and prepare some concrete measures to become an independent and autonomous social employment business, which obtains jobs from privately owned business and public institutions and shares profits like participants in Silver Manpower Center in Japan

2. The Job Creation Project for the Elderly in Japan is creating and increasing various job projects based on the local community, while the local community organization in Korea has not been networked or activated yet. Therefore it is possible, first of all, to create and increase various employment businesses based on the local community only if we induce participation of private business and reinforce their ability. For this, municipalities have to participate more actively in the Job Creation Project for the elderly through stopping a role of a simple subject of business operation and developing and supporting employment businesses of private enterprises. And municipalities have to offer incentives to private enterprises who develop and provide jobs for the elderly to activate job

creation in the private sector. Administration, the job creation business for the elderly, private non-profit organizations, private businesses and local residents all have to cooperate for the creation and development of jobs for the elderly.

3. Considering that there are some similar domestic and foreign researches on the result of this study, showing that life satisfaction differs by types, through making sure of the identity of job project by types, we need to implement policy to arouse the elderly's life satisfaction. Setting up a goal which is differentiated by types, distinguishing evaluation manual, role, subject and duty by types should be included in policy during expansion of The Job Creation Project for the Elderly in Korea.

4. In Japan, the Job Creation Project for the elderly is operated by a national network system and develops jobs toward profitability and professionalism. So it is thought to be meaningful because it not only helps maintain health but also increasingly develops social contribution and fruitful life.

5. The elderly's satisfaction with the job project influences their mental health and the Job Creation Project for the elderly has a positive effect on their physical and mental health and contributes to reducing medical expenses. In consideration of these factors, the Job Creation Project for the Elderly should be expanded and developed more systematically and professionally.

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