AN ANALYSIS ON INFLUENCE FACTORS OF LOCAL RESIDENTS' LIFE SATISFACTION IN INFORMATION SYSTEMS

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ABSTRACT

Objective: This study intended to grasp the influence factors on local residents' life satisfaction in Korea in information systems. **Method:** This study set 263 person, who completed their responses to the life satisfaction survey questionnaire by participating in a local festival held in October, 2015 at a city, Chungnam Province, as its research subjects. The survey questionnaire was developed by this research group by referring to preceding researches, together with the interview with the subjects conducted by trained students of a nursing college and this research group. This study conducted Chi-square analysis and multi-regression analysis to verify the hypothesis that the higher the objective, social factors, i.e. education level and household income, the more cases where one lives with his/her spouse, and the better one's subjective health condition, the higher the life satisfaction will be**. Result**: In multi-regression analysis with life satisfaction as a dependent variable, the educational level, household income, and subjective health condition were found to be the variables having something to do with life satisfaction in a state where related factors were controlled. In addition, it was found that the higher the educational level and household income, the higher the life satisfaction, and that the better the subjective health condition, the higher the life satisfaction. The analysis result in information systems showed that the family income and subjective health condition were found to be the highest with R =0.041, respectively among the variables, followed by the educational level with R =0.021, and marital status with R =0.006. Conclusion: Resultantly, the hypothesis set by this study was verified as true. It was found that the demographic factors such as an educational level and economic level, etc., and subjective health condition have an influence on life satisfaction in an area of our country.

Keywords*: Analysis, Influence factor, residents' life, satisfaction, Information systems*

1. INTRODUCTION

Individuals are members of a community, and cannot live their lives away from society. As such, satisfaction with the quality of life experienced by individuals is directly affected by socioeconomic elements, and indirectly by health status.[1, 2]

The holistic overview of the society in which we take part is expressed via various relationships between the self and others (e.g., social support and social networks), social inequality (e.g., socioeconomic status, income inequality, racial discrimination, and differences in education levels), as well as features differing from those of neighbors (e.g., social defects and social capital).[3] Such differences in social characteristics cause clear variations in satisfaction with life quality.[4- 6]

Household income, which is the total sum of individual incomes in a household, is an adequate index representing the socioeconomic status of individuals; women, children, and elderly individuals are largely dependent on other family members, a situation that gives rise to important factors in their lives.[7, 8] A low household income is

closely linked to health status, which in turn is intimately correlated with quality of life. Individuals from poorer families may experience difficulty engaging in activities related to maintaining and promoting their health. Members of households with a higher income are more likely to take part in health-promoting activities, as opposed to those from lower-income households, who are more likely to be exposed to harmful environments and to experience lower rates of participation in health-promoting activities[9-11], thereby lowering their health levels.[7, 8] A good example of this is a cross-sectional study conducted in Korea, which compared individuals with a monthly household income of no more than 990,000 Korean won and those whose family earned 1 million Korean won or more. The study revealed that members of the more economically affluent group were more interested in their physical health.[12] Similar examples can be found in overseas studies, as in the case of Japan, in which lower household incomes, regardless of individuals' job types, led to lower levels of satisfaction with life quality.[11] A study in China also found that individuals from families earning less than 50% of the national average monthly household income were at a higher risk of physical and mental health problems, adjusting for demographic features and preexisting medical conditions.[13]

In terms of family structure, members of families consisting of parents and children (M=14.2222) were more interested in psychological health than those from single-person households (M=12.7766). Spouses living together (M=15.1096) experienced the highest level of psychological health[12] Educational background is another factor affecting quality of life, as those with a high school diploma or higher (M=16.7143) report higher scores in the psychological factor, a life quality variable, than do those who did not graduate from high school (M=13.4118)[12]. Educational level is also linked to social and physical aspects of life quality, in addition to psychological. Various socioeconomic situations, including educational background, have a steady role in the research on the overall health status of individuals.[14-17]

Health-related quality of life (HRQoL) is a conceptual scale measuring health status reported by individuals, which expresses their satisfaction with their level of physical function and disease status in a subjective and multidimensional manner.[18] At the same time, the scale reflects the physical and mental health subjectively experienced by individuals.[19] Previous studies support the thesis

that a healthier mind and body lead to higher quality of life,[20] indicating that the recent awareness of quality of life is closely related to maintenance and promotion of health. A review of literature on the subject also yields an understanding that HRQoL is influenced by social and economic factors.[9-11] Many studies have demonstrated that satisfaction with quality of life in adults is affected by multiple variables, including health status, psychological and physical functions, and social support.[21]

Quality of life experienced by an individual is influenced by various elements, some of which are objective (such as concurrent social atmosphere and national, social, and economic factors) and some of which are subjective (such as internal values and health status). Among countries worldwide, Korea is home to people with lower satisfaction with their quality of life, but there is a dearth of research on the cause of this dismal situation. Therefore, the current study investigates and analyzes factors that affect quality of life in local community residents, aiming to provide basic data for future studies that seek to enhance Korean quality of life.

2. THEORETICAL DISCUSSION

Life satisfaction is divided into two theoretical tendencies. One of them is the bottom-up theory. "Happiness" is the sum of the satisfaction that you feel in various life areas such as marriage and family life, financial condition, and residence status. Our mind can be shaped by experience as a blank state, and sensation is an objective reflection of the outside world. The objective conditions for individuals to feel happiness and the experience of happiness through them can enhance the quality of life. Thus, the variables that can best predict subjective quality of life are objective living conditions - age, education level, employment status, income level, spouse status, and health .[22]

The other is the top-down theory. Individuals already have an a priori tendency to interpret a concrete life experience in a positive or negative way for a specific event or situation, and this a priori tendency works to determine the degree of satisfaction in a particular domain. In other words, "happiness" is happiness because it has an objective tendency to feel happiness, not happiness because it has an objective condition of happiness. The human mind is not a blank state but an actively interpreting and organizing sensory experience. Therefore, we are interested in revealing psychological characteristics such as pers

onality, attitude, beliefs (extroversion, self-image, emotional stability, etc.) that interpret various events occurring in life in a positive or negative direction. [23-26]

Recent studies on subjective quality of life are interested in integrating upward and downward theory. In other words, it considers the psychological factors such as the objective condition that enables individuals to feel happiness, such as income and health, and the personality that they already have. According to the integrated model, ① objective conditions of life and ② psychological factors of the individual interact with each other to influence the perception of the individual, and these three factors act dynamically to influence the subjective quality of life . In other words, the objective condition of life and individual personality factors that can be happiness act on the individual's perception or interpretation of the situation, and the degree of satisfaction of life is determined through this.

3.   METHODOLOTY

3.1. Research Model

Based on theoretical background and hypothesis, we set up a research model. In this study, the social sociological characteristics (age, occupation, education, income, marital status) were applied as objective conditions affecting the satisfaction of life, and the perception of the situation was divided into subjective perception of health status
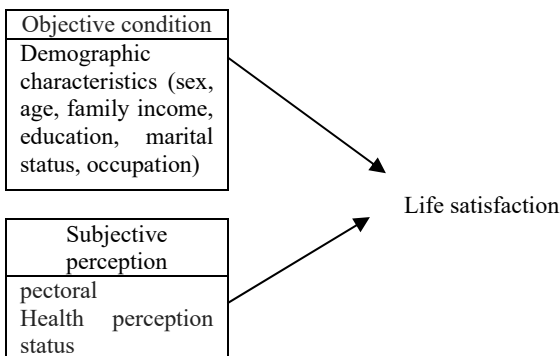

Fig.1. A Study on Life Satisfaction

3.2 Sampling and Data Collection

The current study surveyed 317 visitors to a booth on health promotion installed in a local community festival held in October 2015. Among the responses received from the survey participants, the current study used data from 263 respondents who provided answers to questions on the required variables. The survey questions were divided into six categories: 1) family information, 2) cohabitation with other family members, 3) household income, 4) respondent's education level, 5) subjective report of health status, and 6) quality of life. The reliability coefficient was adequate, with $\alpha=0.816$.

3.3 Hypothesis and Measurement of Variables

3.3.1. Hypothesis of Satisfaction

In this study, the following hypotheses were developed to identify social, personal, or objective and subjective factors that affect the satisfaction of life.

- For those with higher educational backgrounds, life satisfaction will be relatively higher than those with lower educational backgrounds

- In the case of household income, the higher the rate of satisfaction in life will be relatively higher than those with low incomes.

- In the case of a marriage, having a family living together would give you a greater satisfaction in life than living alone.

- The better self-dependent health you are in, the more satisfaction you will have in life than in bad cases.

3.3.2. Variables

A.   Independent Variables

Independent variables included education level, household income, marriage status, and subjective perception of health status.

-Academic background: There were three categories : middle school, high school, and college.

- Household income : The combined income of the entire family, not of the individual income, should be less than 1 million won, 2 million won, 3 million won or more, and four million won or more.
- Marriage status : A total of three items, including living with a spouse, unmarried or otherwise, are included.

-Subjective Health Status: Very good, good, moderate, bad, and bad.

B. Dependent Variable

This tool conducted a cognitive measurement regarding the overall satisfaction of the respondents' past and present life. The satisfaction measurement was reconstructed by the research team in accordance with the actual conditions of the target areas in Korea by referring to Diener's measure of satisfaction with life. This tool is a cognitive measure of how satisfied you are overall with your past and present life. The question is 1) The situation in my life (condition, condition) is very good. 2) I am satisfied with my life. 3) It consists of three scores so far in life, one point (not very), one (not very), two (not), and three (not). And the higher the level of satisfaction in life, the higher the score.

4   DATA ANNALSIS METHOD

 SAS 9.4 was used to analyze the 263 responses to verify the research hypotheses. Analysis was conducted to understand the influence of each independent variable on overall quality of life. Using methods such as frequency analysis and cross-tabulation analysis, the present study identified satisfaction with quality of life, social demographic characteristics, family situation, economic level, and subjective perception of health status. Multiple regression analysis was conducted to verify the hypotheses concerning respondents' satisfaction with their quality of life.

5   RESULTS

5.1 Comparison of Quality of Life Depending on General Characteristics of Respondents

 Level of satisfaction with quality of life was higher in groups with higher education levels, higher household incomes, and better subjective perception of health status. Among these variables, sex, age, household income, and subjective perception of health were factors with statistically significant correlation with satisfaction with quality of life. The general characteristics of the 263

overall subjects of this study are shown in Table 1. Among them, 116 were male (44.11 %) and 147 were female (55.89 %). According to the age group, the number of those in their 50s was the highest, at 75 (28.52%), while those in their 20s was 13 (4.94%). The number of housewives was the highest at 88 (33.46%), while that of people engaged in agriculture and fishing was the lowest, at 18 (6.84 percent). In addition, 39 of them were self-employed (14.83%), 40 were employed (15.21%), and 78 others (29.66%). Among them, 53 were students (20.15%), 101 (38.40%), and 109 (41.44%) had college degrees. Household income stood at 39 people (14.83%), 73 people at 2 million won (27.76%), 75 at 3 million won (28.52%), and 76 at 4 million won (28.90%). The marital status was that 224 residents (85.17%) had spouses, 18 were unmarried (6.84%), 21 had other status (divorce, separation, etc.), and most of them lived with their spouses. The subjective health condition was very good: 9 people (3.42%), 66 people (25.10%), 157 people (59.70%), and 29 people (11.03%).
The average satisfaction level and the minimum number of standard deviations for each variable were obtained. The range was a minimum score of 3 points and a maximum of 21 points, respectively on the scale from 1 point to 7 points. The average level of satisfaction in life was 13.40 in middle school, 14.88 in college, and 14.08 in household income, which is lower than that of 4 million won. Subjective health was very poor at 10.00 points and very good at 17.33 points. The higher the educational background, the higher was the household income, and the better the subjective health, the better was the satisfaction of life. At $p < 0.5$ level, the significance of household satisfaction means sex ($t = 50.82$, $p <. 001$), age ($F = 2.16$ $p = 0.051$), and occupation = . Among them, statistically significant factors related to life satisfaction were sex, age, household income, and subjective health.
The higher the degree of education, the higher was the average level of satisfaction in life (average middle school level: 1.45 million won or less) (13.40, high school diploma : 14.16, college degree of college : 14.88). In terms of marital status, living with a spouse was higher than 13.67, with an average satisfaction level of 14.43. The average level of satisfaction in life was the highest at 17.33 when the subjective health condition was reported to be very good, and the average dropped to 10 for cases of very poor subjective health.

Table1. Response of the general population sample(n=263) to the life satisfaction

| Variable		n(%)	mean	SD	Minimum value	Maximum value	t/F	**p_value**
Sex	male	116(44.11)	14.49	3.40	3.00	20.00	50.82	<.001
	female	147(55.89)	14.16	4.22	3.00	21.00		
Age	≤29	13(4.94)	14.69	5.12	3.00	21.00	2.16	0.051
	≥30	38(14.45)	14.79	3.17	5.00	20.00		
	≥40	45(17.11)	14.67	3.55	8.00	20.00		
	≥50	75(28.52)	14.39	3.88	3.00	20.00		
	≥60	62(23.57)	13.02	4.48	3.00	21.00		
	≥70	30(11.41)	15.43	2.57	9.00	19.00		
Job	Farming or fishing	18(6.84)	15.06	3.84	6.00	21.00	1.27	0.282
	Officer	40(15.21)	14.88	3.88	5.00	20.00		
	House wife	88(33.46)	14.65	3.92	3.00	21.00		
	Self emplyoment	39(14.83)	13.46	3.28	6.00	19.00		
	Other	78(29.66)	13.87	4.06	3.00	21.00		
Education	≤Middle School	53(20.15)	13.40	4.06	3.00	21.00	2.77	0.064
	≥High School	101(38.40)	14.16	3.54	3.00	21.00		
	≥College	109(41.44)	14.88	4.01	3.00	21.00		
Income	≥1million	39(14.83)	14.08	3.41	6.00	20.00	6.30	<.001
	≥2million	73(27.76)	12.93	3.69	3.00	19.00		
	≥3million	75(28.52)	14.45	4.09	3.00	21.00		
	≥4million	76(28.90)	15.59	3.64	3.00	21.00		
Marriage	Marriage	224(85.17)	14.43	3.87	3.00	21.00	0.85	0.430
	Single	18(6.84)	13.67	3.94	3.00	21.00		
	Other	21(7.98)	13.48	3.83	6.00	21.00		
Self health status	Very good	9(3.42)	17.33	2.69	14.00	21.00	3.26	0.012
	Good	66(25.10)	14.83	4.10	3.00	21.00		
	Moderate	157(59.70)	14.20	3.42	4.00	21.00		
	Bad	29(11.03)	13.00	4.86	3.00	20.00		
	Very bad	2(0.76)	10.00	9.90	3.00	17.00		
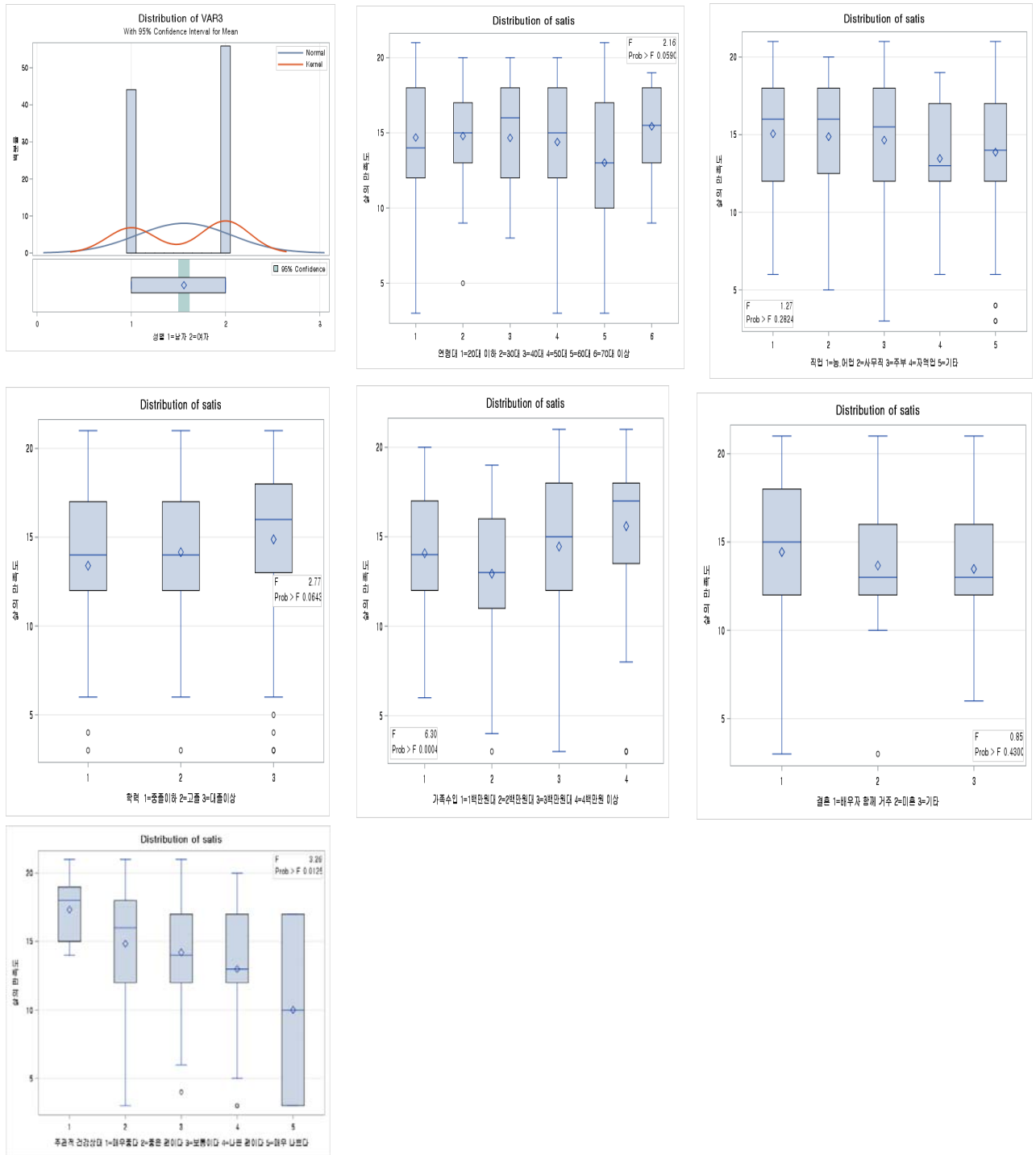
Fig. 2 HRs of life satisfaction by sex, education, age, occupation, household income, marital status, and subjective health status

5.2 Factors Affecting Satisfaction with Quality of Life

Controlling for confounding variables, education level, economic level, and subjective perception of health status were factors with statistically sifnificant correlation with satisfaction with quality of life. Household income and subjective perception of health status had an R-value of 0.041, indicating that they are more correlated to the dependent variable than other independent variables. Next, education level had an R-value of 0.021, and marriage status had an R-value of 0.006, indicating statistical significance..

Table 2. Associations between subjective social class, household income, and subjective perception of health status on life satisfaction obtained using multiple regression analysis

Variable	R^2	Adj-R^2	p-value
Education	0.021	0.017	0.019
Household Income	0.041	0.038	<.001
Marriage Status	0.006	0.002	0.223
Subjective Perception of Health Status	0.041	0.038	<.001

6. DISCUSSION

The present study investigated and analyzed factors influencing individuals' satisfaction with their quality of life. Among many related elements, the study focused on identifying the influence of social demographic factors and subjective perception of health status on the dependent variable. The results revealed that the daily happiness individuals subjectively experience is related to social elements, and as such, satisfaction with quality of life differed in groups with different levels of certain social factors. Among social and economic factors, those with statistically significant effects on satisfaction with quality of life were education level, household income, and marriage status. In addition, subjective perception of the individual's own health status was also highly correlated with that individual's satisfaction with quality of life. Average satisfaction with quality of life was higher in groups with higher levels of education (mean value for middle school education or lower: 13.40; high school education: 14.16; college education or higher: 14.88). A comparison of household income and average level of satisfaction with quality

of life resulted in a J-shaped curve, with groups earning less than 2 million at 14.08, less than 3 million at 12.93, less than 4 million at 14.45, and 4 million or more at 15.59. People in cohabitation with their spouse showed an average satisfaction level of 14.43, higher than the score for the unmarried group at 13.67. As for the subjective perception of health status, those who reported very good health had the highest average satisfaction score of 17.33, with the scores gradually decreasing for worse-perceived health levels, arriving at 10.00 for groups perceiving their health to be very bad.

Multiple regression analysis conducted to identify the factors impacting satisfaction with quality of life demonstrated that education level, economic level, and subjective perception of health status were statistically significant, controlling for confounding variables. Household income and subjective perception of health status had an R-value of 0.041, indicating that they are more strongly correlated to the dependent variable than other independent variables. Next, education level had an R-value of 0.021, and marriage status an R-value of 0.006, indicating statistical significance. Such trends are also reported in previous research on the topic. In Choi[27], two sessions of hierarchical regression analysis using only social demographic factors showed that the explanatory power of the first analysis session was 8%, with income being a significant variable. Inserting health-related factors in the second analysis session added 26% to the explanatory power, bringing it to 34%, with perception of health and existence of a spouse being significant variables.

Many other studies have also reported varying levels of satisfaction with quality of life depending on age, sex, racial and ethnic characteristics, income level, and education level. Jia[28] conducted a study on the topic involving 13,646 adult men and women over the age of 18, using age, sex, ethnic and racial characteristics, and the existence of chronic diseases, and arrived at the conclusion that HRQoL levels were lower for groups with features such as higher age, female gender, American Indian or Alaskan race, lower income, and lower education level. Sullivan and Ghushchyan[29] conducted a similar study on 38,678 respondents, which yielded similar results.

Income level itself is positively correlated with satisfaction with quality of life, and it also influences subjective perception of health status, which in turn affects satisfaction with quality of life. As studied in multiple dissertations, economic prosperity increases engagement in health-promoting activities, whereas in contrast, people with lower income levels tend to ignore such activities, leading to lower subje

ctive perception of health status.[9-11]

Studies also report that living with a spouse increases individuals' satisfaction with quality of life, as compared to individuals who are unmarried or otherwise separated from a spouse. As demonstrated in t he present study and previous research, objective an d basic social factors must be present to maintain an d enhance happiness in life, indicating the necessity of welfare policies that can promote enhancement of such elements.

The present study is limited in that all respondents volunteered their answers, meaning that the study's subjects may not reflect the average attitude toward life and psychological positivity. As such, there are limits to the generalizability of the study's results to the Korean population.

7. CONCLUSIONS

In this study, we investigated and analyzed the intended to grasp the influence factors on local residents' life satisfaction in Korea in information systems. The present An individual's education level also influences other social factors, such as current occupation and income level, which in turn increase satisfaction with quality of life. This explains why satisfaction with quality of life was highest in college graduates, followed by high school graduates and people with lower-level education. Life satisfaction was also higher in groups with higher household incomes, except for the group with a family income of less than 2 million Korean won; average satisfaction with quality of life increased gradually in the household income groups. With respect to marriage status, those living with a spouse had higher satisfaction with quality of life than unmarried respondents. Additionally, household income and subjective perception of health status both had a high influence on satisfaction with quality of life.

REFERENCES:

[1] F.M. Andrews and S.B. Withey, Social indicators of well-being Americans perceptions of life quality. 1976

[2] J. Horley, "Life satisfaction, happiness, and morale: Two problems with the use of subjective well-being indicators". *Gerontologist.* Vol. 24, No. 2, 1984. pp. 532

[3] L.H. Mcneill, M.W. Kreuter and S.V. Subramanian, "Social environment and physical activity: a review of concepts andevidence". *Soc Sci Med*, Vol. 63, No.4, 2006, pp. 256

[4] A.Ferrer–I-Carbonell, "Income and well-being; An empirical analysis of the comprison income effect". *J public Econ*, Vol. 89, 2005, pp.682

[5] . M.E. Lachman and S.L. Weaver. "The sense of control as a moderator of social class differences in health and well-being". *J Pers Soc Psychol*, Vol.74, No.3, 1998, pp.688

[6] A. Singh-Manoux, N.E. Adler and M.G. Marmot, "Subjective social status: Its determinants and its association with measures of ill-health in the Whitehall Ⅱstudy". *Soc Sci Med,* Vol.56, 2003, pp.538

[7] A .Wagstaff and E.V. Doorslaer. "Income inequality and health: what does the literature tell us?" *Annu Rev Public Health*, Vol.21, 2000, pp.543~610

[8] M.K. Ali, K.M. Bullard and G.L. Beckles, "HouseHold income, and cardiovascular disease risks in US. Children and young adults: analyses from NHANES 1999-2008". *Diabets Care,* Vol. 34, No. 9, 2011, pp.1998~2004

[9] E. Lahana, E. Pappa and D. Niakas, "The impact of ethnicity, place of residence and socionomic status on health-related quality of rife: results from a Greek health survey". *Int J Public Health,* , Vol. 55, No. 5, 2010, pp.391~400

[10] H.S. Zahran, R. Kobau and D.G. Moriaryt, "Health-related quality of life surveillance US, 1993-2002". *MMWR Surveill Summ*, , Vol. 54, No. 4, 2005, pp.238

[11] S. Yamazaki, S. Fukuhara and Y. Suzukamo, "Household income is strongly associated with health-related quality of life among Japanese men but not women". *Public Health*, Vol.119, No.7, 2005, pp.561~567

[12] K.H. Lee, "A Exploration on the Health Promotion Behavior and Quality of Life by the Sociodemographic Characteristics of the Rural Elderly". Thesis of Chungju University, 2014.

[13] KL. Cindy, Y.G. Vivian, H.W. Carlos King, Poverty and health-related quality if life of people living in Hong Kong: comparison of individuals from low-income families and the general population. *J Public Health(Oxf),* 2016.

[14] A.L. Collins and N. Goldman, "Perceived social position and health in older adults in Taiwan". *Soc Sci Med,* Vol. 66, 2008, pp.992

[15] P.Demakakos, J. Nazroo, E. Breeze et al., "Socioeconomic status and health: The role of subjective social status". *Soc Sci Med,* Vol. 67 2008, pp.330~370

[16] P. Hu, N.E. Adler, N. Goldman et al., Relationship between subjective social status and measures of health in older Taiwanese persons. *J Am Geriatr Soc*, Vol. 53, 2005

[17]   A.Singh-Manoux, M.G. Marmot and N.E. Adler, "Does subjective social status predict health and change in health status better than objective status?" *Psychosom Med,* Vol. 67, 2005, pp.967

[18] B.J. DeLateur. "Quality of life: A patient-centered outcome". *Arch Phys Med Rehabil*, Vol.78, No.3, 1997, pp.237~246

[19] G.H. Guyatt, D.H. Feeny and D.L. Patrick. Measuring health-r.elated quality of life. *Ann Intern Med,* Vol.118, No.8, 1993

[20] K.Y. Yun, A study on Factors affecting quality of living in low income, alone-living elderly, Thesis of International Theological University, Seoul, 2008

[21] V.H. Menec, The relation between everyday activities and successful aging: A 6-year longitudinal study. *J Gerontol B Psychol Sci Soc Sci,* Vol.58, No 2, 2003 Mar

[22] Brief, A. P. 1993. "Integrating bottom-up and top-down theories of subjective well-being : The case of health". Journal of Personality and Social Psychology 64(4): 646-653.

[23] DeNeve, K. M. and Cooper, H. 1998. "The Happy Personality: A Meta-Analysis of 137 Personality Traits and Subjective Well-Being". *Psychological Bulletin* 124 (2): 197-229.

[24] Chan and Joseph. 2000. "Dimensions of personality, domains of aspiration, and subjective well-being".

Personality and Individual Differences 28: 347-354.

[25] Hayes, N. and Joseph, S. 2003. "Big 5 correlates of three measures of subjective well-being". Personality and Individual Differences 34(4): 723-727.

[26] Vittersø. J. 2001. "Personality traits and subjective well-being: emotional stability, not extraversion, is

probably the important predictor". Personality and Individual Differences 31(6): 903-914.

[27] H. Choi, The effect of health function on the quality of life among the Elderly, Thesis of Yonsei University, 1997

[28] H. Jia and E.I. Lubetkin. The impact of obesity on health-related quality-of-life in the general adult US population. *J Public Health(Oxf)*. Vol 27, 2005

[29] P.W. Sullivan and V. Ghushchyan. "Preference-Based EQ-5D index scores for chronic conditions in the United States". *Med Decis Making*. Vol 26, 2006, pp.410~430