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# Influence of Marital Intimacy and Health Promoting Lifestyle on Happiness among Middle-aged Adults

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**Abstract**

**Background/Objectives**: This study was conducted to examine the correlations of marital intimacy, health promoting lifestyle, and happiness, and to identify the factors influencing on happiness of middle-aged adults.

**Methods/Statistical analysis**: Data for this study were collected from 153 middle-aged adults from May 3 to June 3, 2020. Data were collected by a self-report questionnaire. Data were analyzed using Frequency analysis, descriptive statistics, two-independent samples t-test, one-way ANOVA, Pearson's correlation coefficient, and stepwise multiple regression analysis with the IBM SPSS Statistics 25.0 program.

**Findings**: Marital intimacy according to the general characteristics showed significant differences in perceived health status. Health promoting lifestyle according to the general characteristics showed significant differences in occupation and perceived health status. Happiness according to the general characteristics showed significant positive correlations with marital intimacy and health promoting lifestyle. Marital intimacy, health promoting lifestyle, and monthly income, which accounted for 29% of the variance, were significant predictors influencing happiness in middle-aged adults.

**Improvements/Applications**: In order to promote happiness among middle-aged people, evaluations of marital intimacy and health promoting lifestyle should be made. In addition, improvements should be made to positive marital intimacy and health promoting lifestyle.

***Keywords***: Happiness, Health, Lifestyle, Marital, Middle-aged

## 1. Introduction

Middle-aged adults experience physical and psychological aging or social role changes as a turning point in their life cycle [1]. This is also the time when they prepare for old age and think of death [2]. They can expect to improve their social, emotional, physical and spiritual well-being when they properly cope with the period of change and re-adaptation in middle age.

Happiness is a metaphysical concept that cannot be objectively measured; it is a positive emotion and idea that one experiences subjectively in one's life [3]. It is also an important and essential positive concept for maintaining good health [4]. Human relationships help decide whether an individual ages happily and healthily [5]. Research has emphasized the importance of social ties, particularly marriage and the degree of intimacy with one's children [5]. Among the indicators of the quality of adult life, namely, satisfaction with work, leisure, and family life, the factors that affect family life carry the most weight [6]. In Korean adults, the components of a happy life include love of and trust in their spouse and good health [7].

Marriage is the central personal relationship for many adults, and it influences health and well-being across the lifespan [8]. Middle-aged couples, whose adult children have become independent, will need to renegotiate their relationships. Among middle-aged couples, the sense of companionship serves as the main foundation of their affection as a married couple [9]. Marital intimacy refers to a shared closeness or a couple's feeling of being mutually related to each other, and include the element of affection, sexual attraction, devotion, and cognition [10]. Marital intimacy is an essential element of healthy marital relationships; therefore, marital intimacy is an important determinant of the psychological well-being of individuals [11]. The influence of quality of life in middle age has been showed to be a factor of marital intimacy [12]. Marital intimacy is not achieved in a short period of time; satisfactory marital relationships in old age require efforts from middle age.

Health may be a determinant of happiness [13] or, at the least, ill health may cause unhappiness. Conversely, a feeling of happiness may enhance health. As people approach middle age, their health problems that are caused by changes in the body, stress exposure, and lifestyle can lead to diseases [14]. Health promoting lifestyle are affected by a variety of factors, including individual physical characteristics, cognition, and perception, as well as environment [15]. Bolstering health promoting activities in middle age can help improve quality of life and ensure

the healthy transition to old age.

In previous studies, family relationship and leisure life [16] have been identified as factors that affect the happiness of middle-aged adults. In addition, monthly income, job satisfaction, and marital relationships in the middle-age years have been shown to be factors affecting happiness [17]. However, no studies have been conducted that included marital intimacy and health promoting lifestyles as factors that affect happiness in middle-aged adults.

Therefore, this study intended to provide basic data for programs to promote happiness in middle-aged adults by identifying how marital intimacy and health promoting lifestyles affect happiness. To do this, fist, this study evaluated the degrees of middle-aged adults' marital intimacy, health promoting lifestyle, and happiness. Second, this study identified the differences of middle-aged adults' marital intimacy, health promoting lifestyle, and happiness as they related to general characteristics. Third, the study examined the correlations among marital intimacy, health promoting lifestyle, and happiness of middle-aged adults. Lastly, the study investigated the various influencing factors on happiness in middle-aged adults.

## 2. Methods

### 2.1. *Study design*

This study was a cross-sectional descriptive survey examining the correlations among middle-aged adults' marital intimacy, health promoting lifestyle, and happiness. This study also aimed to identify factors that influence the happiness within this population.

### 2.2. *Setting and samples*

The participants for this study were selected by convenient purposive sampling among the adult population that registered at five culture in Gwangju one of the six metropolitan cities in Korea. The standards of section for the participants of this study are as follows: (a) aged 40-60 years; (b) people in normal marital status excluding those who were divorced or bereaved as it could be difficult to evaluate their marital intimacy; (c) people who did not have mental diseases and who could communicate with each other; (d) people who understood the purpose of this study and gave written consent to participate in this study. The minimum sample size was calculated to be 136 when the multiple regression analysis was conducted using G*Power 3.1.2 analysis software with predictor variables set at 8, level of significance at .05, effect size at .15, and test power calculation at .90. Therefore, the 153 participants who participated in this research, excluding the 7 whose responses were insufficient among the 160 through document investigation, was considered suitable.

### 2.3. *Measurements*

#### *2.3.1. General characteristics*

General characteristics of the participants included gender, age, education level, duration of marriage, number of children, occupation, monthly income, chronic disease and perceived health status.

#### *2.3.2. Marital intimacy*

Marital intimacy was measured using the marital intimacy scale by Lee [11]. The sub-region consists of cognitive, affectional, and sexual intimacy. The tool of this study consists of 15 questions using a 5-point Likert scale. Higher scores mean higher marital intimacy. The Cronbach's alpha for the previous study was .90 [11], and that of the current study was .90.

#### *2.3.3. Health promoting lifestyle*

The Health Promoting Lifestyle (HPLP) tool developed by Walker et al. [18] was translated by Hwang [19]. In this study, the measurements were made using Jeon, Choi, and Han [20] tools that modified Hwang [19]. The sub-region consists of self-actualization, health responsibility, exercise, nutrition, interpersonal relationship, and stress management. The tool of this study consists of 26 questions using a 5-point Likert scale. Higher scores mean higher health promoting lifestyle. The Cronbach's alpha for the previous study was .84 [20], and that of the current study was .89.

#### *2.3.4. Happiness*

Happiness was measured using the happiness scale by Seo and Gu [21]. The tool of this study consists of 9 questions using a 7-point Likert scale. The score combines life satisfaction and positive sentiment scores. And subtract the negative emotion score. Higher scores mean higher happiness. The Cronbach's alpha for the previous study was .81 [21], and that of the current study was .91.

### 2.4. *Data collection*

Data for this study were collected from Jun 3 to July 3, 2020. Data collection was conducted by one-to-one interview using structured questionnaire survey. The participants who understood the purpose of this study and agreed to participate in this survey signed his or her name on a consent form. It took approximately 10 minutes to complete the questionnaire.

### 2.5. *Data analysis*

Data were analyzed using SPSS version 25.0(IBM SPSS Statistics, Chicago, IL, USA). General characteristics of the participants were presented in real numbers, percentages, means, and standard deviations. The levels of marital intimacy, health promoting lifestyle, and happiness were presented in means and standard deviations. The differences among marital intimacy, health promoting lifestyle, and happiness according to general characteristics were analyzed using t tests and on-way analysis of variance; post hot test was made through Duncan's test. The correlations among marital intimacy, health promoting lifestyle, and happiness were analyzed through Pearson's correlation coefficients. To identify the factors that influenced happiness, stepwise multiple regression analysis was conducted, and categorical variables were analyzed as dummy variables.

## 3. Results

### 3.1. *Level of marital intimacy, health promoting lifestyle, and happiness*

The participants' mean scores for marital intimacy, health promoting lifestyle, and happiness were 3.46±0.61, 3.38±0.45, and 4.79±0.90 respectively [Table 1].

**Table 1: Level of marital intimacy, health promoting lifestyle, and happiness (N=153)**

| Variables | Mean±SD | Mini | Max | Range |
|---|---|---|---|---|
| Marital intimacy | 3.46±0.61 | 1.80 | 5.00 | 1-5 |
| Cognitive | 3.70±0.55 | 2.00 | 5.00 | 1-5 |
| Affectional | 3.48±0.77 | 1.60 | 5.00 | 1-5 |
| Sexual | 3.19±0.84 | 1.00 | 5.00 | 1-5 |
| Health promoting lifestyle | 3.38±0.45 | 2.27 | 4.96 | 1-5 |
| Self-actualization | 3.68±0.53 | 2.33 | 5.00 | 1-5 |
| Health responsibility | 3.50±0.71 | 1.00 | 5.00 | 1-5 |
| Exercise | 2.87±0.96 | 1.00 | 5.00 | 1-5 |
| Nutrition | 3.27±0.75 | 1.60 | 5.00 | 1-5 |
| Interpersonal relationship | 3.62±0.53 | 1.80 | 5.00 | 1-5 |
| Stress management | 3.09±0.58 | 1.75 | 5.00 | 1-5 |
| Happiness | 6.38±2.69 | -2.00 | 13.00 | |

### 3.2. *Differences of marital intimacy, health promoting lifestyle, and happiness by general characteristics*

The participants' score for marital intimacy, there were significant differences statistically, depending on perceived health status (F=4.96, $p$<.05). The degree of health promoting lifestyle differed significant differences statistically, depending on occupation (t=2.48, $p$<.05) and perceived health status (F=16.40. $p$<.001). Happiness also differed significant differences statistically, depending on monthly income (t=-2.44, $p$<.05) and perceived health status (F=11.18, $p$<.001) [Table 2].

**Table 2: Differences of marital intimacy, health promoting lifestyle, and happiness by general characteristics (N=153)**

| Characteristics | Categories | n(%) | Marital intimacy | | Health promoting lifestyle | | Happiness | |
|---|---|---|---|---|---|---|---|---|
| | | | Mean±SD | t/F($p$) | Mean±SD | t/F($p$) | Mean±SD | t/F($p$) |

| | | | | Duncan | | Duncan | | Duncan |
|---|---|---|---|---|---|---|---|---|
| Gender | Male | 59(38.6) | 3.52±0.63 | 1.00 | 3.43±0.47 | 0.95 | 4.69±0.85 | -1.16 |
| | Female | 94(61.4) | 3.42±0.60 | (.321) | 3.36±0.44 | (.342) | 4.86±0.92 | (.250) |
| Age (yr) | 40-50 | 125(81.7) | 3.48±0.60 | 1.26 | 3.37±0.45 | -0.94 | 4.78±0.90 | (-0.37) |
| | 51-60 | 28(18.3) | 3.32±0.67 | (.210) | 3.45±0.46 | (.350) | 4.85±0.91 | .715 |
| Education level | High school | 20(13.1) | 3.34±0.59 | -0.93 | 3.26±0.47 | -1.36 | 4.54±1.02 | -1.33 |
| | ≥College | 133(86.9) | 3.47±0.62 | (.354) | 3.40±0.45 | (.177) | 4.83±0.88 | (.185) |
| Duration of marriage (yr) | <10 | 24(15.7) | 3.64±0.55 | 1.16 | 3.34±0.41 | 1.05 | 4.91±0.92 | 0.56 |
| | 10-14 | 52(34.0) | 3.40±0.54 | (.328) | 3.31±0.39 | (.371) | 4.68±0.82 | (.642) |
| | 15-19 | 30(19.6) | 3.52±0.61 | | 3.43±0.55 | | 4.78±1.11 | |
| | ≥20 | 47(30.7) | 3.38±0.71 | | 3.46±0.46 | | 4.87±0.82 | |
| Number of children | 0 | 5(3.3) | 3.41±0.28 | 0.57 | 3.26±0.33 | 0.43 | 4.13±0.57 | 2.48 |
| | 1 | 32(20.9) | 3.43±0.59 | (.637) | 3.37±0.45 | (.730) | 4.77±0.84 | (.064) |
| | 2 | 92(60.1) | 3.43±0.64 | | 3.37±0.43 | | 4.74±0.90 | |
| | ≥3 | 24(15.7) | 3.61±0.61 | | 3.47±0.54 | | 5.17±0.94 | |
| Occupation | Yes | 140(91.5) | 3.47±0.62 | 0.75 | 3.41±0.44 | 2.48 | 4.81±0.86 | 0.67 |
| | No | 13(8.5) | 3.33±0.47 | (.454) | 3.09±0.41 | (.014) | 4.63±1.24 | (.502) |
| Monthly income (10,000 KRW) | <300 | 17(11.1) | 3.29±0.64 | -1.15 | 3.28±0.38 | -0.97 | 4.30±1.01 | -2.44 |
| | ≥300 | 136(88.9) | 3.48±0.61 | (.251) | 3.40±0.46 | (.333) | 4.85±0.87 | (.016) |
| Chronic disease | Yes | 36(23.5) | 3.44±0.65 | -0.14 | 3.37±0.41 | -0.18 | 4.67±0.62 | -0.97 |
| | No | 117(76.5) | 3.46±0.60 | (.887) | 3.39±0.46 | (.857) | 4.83±0.97 | (.335) |
| Perceived health status | Very good[a] | 59(38.6) | 3.64±0.58 | 4.96 | 3.62±0.41 | 16.40 | 5.13±0.86 | 11.18 |
| | Usually[b] | 80(52.3) | 3.36±0.61 | (.008) | 3.26±0.41 | (.000) | 4.68±0.79 | (.000) |
| | Bad[c] | 14(9.2) | 3.21±0.62 | c<a | 3.11±0.41 | c<a | 4.03±1.04 | c<b<a |

### 3.3. *Correlations among marital intimacy, health promoting lifestyle, and happiness*

Marital intimacy of the participants was positively correlated with health promoting lifestyle (r=.42, $p$<.001) and happiness (r=.41, $p$<.01). Health promoting lifestyle was positively correlated with happiness (r=.48, $p$<.001) [Table 3].

**Table 3: Correlations among marital intimacy, health promoting lifestyle, and happiness (N=153)**

| Variables | Marital intimacy | Health promoting lifestyle | Happiness |
|---|---|---|---|
| | r($p$) | | |
| Marital intimacy | 1 | | |
| Health promoting lifestyle | .42(.000) | 1 | |
| Happiness | .41(.000) | .48(.000) | 1 |

### 3.4. *Factors influencing happiness*

In order to investigate the factors influencing happiness, a stepwise multiple regression analysis was conducted using the significant two variables from general characteristics (monthly income, perceived health status) and significant two variables from the correlation analysis (marital intimacy, health promoting lifestyle). The correlation coefficients between the independent variables ranged from a .17 to .37; because they did not exceed .80, we confirmed they were independent of each other. As a result of checking autocorrelation with Durbin-Watson statistic, the assumption of residual independence was fulfilled as it was close to 2 (2.042). As a result of the test of multicollinearity using the tolerance limit and the variation inflation factor (VIF) value, it was found that all variables did not have multicollinearity problem because the tolerance limit was .10 or higher of the VIF value was not more than 10 (tolerance limit: .82-.99, VIF: 1.01-1.23), and condition index was less than 30. According to these statistics, there was no problem of multicollinearity. This analysis confirmed that the data meet on the assumptions of residuals, linearity, normality, and the homoscedasticity of error terms. Cook's distance value for examining individual data points never exceeded 1.00.

Results of stepwise multiple regression analysis showed that health promoting lifestyle, marital intimacy, and monthly income were main factors affecting happiness in middle-aged adults. Regression analysis revealed that the explanatory power of this regression model was approximately 29.0% [Table 4].

**Table 4: Factors influencing happiness (N=153)**

| Variables | B | S.E | ß | t | *p* |
|---|---|---|---|---|---|
| (constant) | 0.71 | 0.51 | | 1.40 | .164 |
| Health promoting lifestyle | 0.74 | .15 | .37 | 4.91 | <.001 |
| Marital intimacy | 0.35 | .11 | .24 | 3.19 | .002 |
| Monthly income | 0.41 | .20 | .14 | 2.09 | .039 |

$R^2$=.31 Adj.$R^2$=.29 F=21.92($p$<.001)

## 4. Discussion

This study was examined to provide bases for nursing intervention strategies that can improve the happiness levels of middle-aged adults. Specifically, the current research examined the correlations among the marital intimacy, health-promoting lifestyle, and happiness, as well as the factors influencing, in this group.

The participants' mean score for marital intimacy was 3.46 points out of 5. They scored the highest in cognitive intimacy and the lowest in sexual intimacy. The present results were similar to those in Cheon and Shin [22], in which marital intimacy was scored 3.57 points and sexual intimacy was also scored the lowest among the intimacy types in middle-aged adults. Koo [12] similarly reported a marital intimacy score of 3.32 out of 5 in middle-aged women, whereas Kwak et al. [17] reported a score of 2.97 out of 4 in middle-aged men. In middle-aged adults, the degree of marital intimacy is not high, and the degree of sexual intimacy is the lowest. More than 90% of the participants in the present study had jobs, which is believed to have reduced sexual intimacy, as busy work cuts into personal time. Sex life in middle aged can be a driving force for maintaining married couples' lives and family systems [23]. Therefore, efforts should be made to increase sexual intimacy in middle-aged adults. In additions, efforts to increase cognitive and emotional intimacy are also important because satisfaction with marital relationships requires marital intimacy, of which consideration and respect are important factors [24]. The participants' mean score for health-promoting lifestyle was 3.38 points out of 5. In the sub-areas, the mean score were as follows: self-actualization, 3.68; health responsibility, 3.50; exercise. 2.87; nutrition, 3.27; interpersonal relationship, 3.62 points; and stress management, 3.09. In this study, self-actualization was scored the highest and exercise, the lowest. The current results were similar to those in Mun [25], which reported the highest self-realization score of 3.43 points in middle-aged adults, as well as 3.75 points for self-actualization and 3.21 points for exercise and nutrition. Kim and Lee [26] reported scores in the same range for health-promoting lifestyle in middle-aged adults (3.47), with self-actualization being scored the highest (3.88), and stress management (3.20) and exercise and nutrition (3.25), the lowest. In middle-aged adults, exercise and nutrition score the lowest among health-promoting lifestyles. Most of the current participants were employed, which seemed to have been the reason they were unable to exercise and ensure nutrition management. Therefore, health programs for exercise and nutrition management that can be easily implemented at work must be developed. The participants' mean score for happiness was 4.79 points out of 7, indicating the median level. Previous studies have reported similar results. In Mun [25], psychological well-being is shown to be at the median level in middle-aged adults, and in Kwak et al. [17], happiness is shown at the median level in middle-aged men. However, each study used different tools to measure happiness, and as such, comparisons could be restricted. Nonetheless, the results point to middle-aged adults being not happy. Middle age is a time when many people face a decline in health, feel a sense of emptiness, and lose vitality [27]. Therefore, much research has been conducted in connection with middle-aged life to enhance middle-aged happiness [16-17]. Concrete measures need to presented in terms of social and personal aspects to enhance the happiness of middle-aged people.

In marital intimacy depending on the participants' general characteristics surveyed by perceived health status in the presents study, the score were higher in the "healthy" group compared with the "unhealthy" group. No research has examined marital intimacy according to the perceived health status of middle-aged adults, thereby limiting the current discussion. Kim and Choi [28] studied differences in marital intimacy according to number of diseases in middle-aged woman concluded that health factors play a role in marital intimacy. Lee and Kim [23] showed that middle-aged people prioritize economic stability to ensure a continuous sex life, and older people prioritized the health of their spouses. Thus, the physical health of middle-aged people is an important factor to a continuous sex life in old age. Middle-aged health care is needed to increase marital intimacy. Health-promoting lifestyles according to general characteristics showed significant differences in occupation and perceived health status. In terms of perceived health status, the score were higher in the "healthy" group compared with the "unhealthy" group. Likewise, earlier studies have shown differences in health-promoting lifestyles at the subjective economic level [26], and in terms of economic level and health status [25]: the higher the economic level and the better the health status, the better the health-promoting lifestyle. The difference in health-promoting lifestyles according to jobs is thought to be the result of more information sharing on health-promoting lifestyles at work. Meanwhile, happiness according to general characteristics showed significant differences in monthly income and perceived health status. Hong and Kwak [29] showed that influences on subjective

health status represent a factor that affects middle-aged happiness. In this regard, health, which is a physical factor, is a factor that has an important bearing on happiness. Therefore, middle-aged health care is needed to enhance middle-aged happiness. Kwak et al. [17] further showed that monthly income is a factor affecting happiness sentiment. Thus, the higher the economic level, the higher the level happiness.

With regard to the correlations among marital intimacy, health-promoting lifestyle, and happiness, the results of the present study were similar to those in previous studies. Cheon and Shin [22] confirmed that the higher the marital intimacy, the higher the health promoting behavior. Mun [25] concluded that the higher the level of psychological well-being in a middle-aged adults, the better the health-promoting lifestyle. Kwak et al. [17] reported that higher marital intimacy relates to a higher sense of happiness in middle-aged men. Koo et al. [12] demonstrated that higher marital intimacy relates to an increased quality of life in middle-aged women. In other words, high marital intimacy and a healthy lifestyle can increase happiness. Therefore, programs that can enhance marital intimacy and health-promoting lifestyles in middle-aged adults need to be develop and implemented.

The present results showed that the factors influencing happiness in middle-aged adults were health-promoting lifestyle, marital intimacy, and monthly income, matching those in earlier studies. Mun [25] confirmed health-promoting lifestyles as factors that affect psychological well-being in middle-aged adults. Hong and Kwak [29] showed that average monthly household income is a factor affecting happiness in middle-aged adults. Koo [12] identified marital intimacy as a factor affecting quality of life in middle-aged women. Kim et al. [7] listed economic power, love and trust with spouses, and health as the components of a happy life for Korean adults. Therefore, when developing a program to promote happiness in middle age, practitioners should account for the health-promoting lifestyle, marital intimacy, and monthly income of the targeted group.

## 5. Conclusion

This study attempted to investigate the factors influencing happiness in 153 middle-aged adults. Factors influencing happiness of middle-aged adults in this study were health promoting lifestyle, marital intimacy, and monthly income. Therefore, in order to improve happiness in middle-aged adults, an assessment of their marital intimacy and health promoting lifestyle should be made and a variety of nursing intervention should be followed to improve their positive intimacy and health promoting lifestyle.

Based on the above results, the present study suggests the following. First, since this study was conducted among middle-aged adults in one area, repeated studies on more local middle-aged adults are needed to ensure the generalizability and validity of the results. Second, research is needed to develop programs that can enhance happiness in middle-aged adults and verify their effectiveness.

## 6. References


1. Jeong SH. Sociology of the middle age. Seoul: Sallim Publisher; 2010.
2. Jeong OB. Adults elderly psychology. Seoul: Hakjisa Publisher; 2008.
3. Bekhet AK, Zauszniewski, JA, Nakhla, WE. Happiness: theoretical and empirical considerations. Nurs Forum. 2008 Jan-Mar;43(1):12-23. DOI:10.1111/j.1744-6198.2008.00091.x.
4. Kim GH, Kim KH. Factors related to happiness in first year women nursing students. J Korean Acad Psychiatr Mental Health Nurs. 2012 June;21(2):149-157.
5. Vaillant GE. Aging well. (Translation D. N. Lee). Seoul: Frontier, 2010.
6. Ka YH. The effects of adults' work-family conflicts on satisfaction in the domains and subjective quality of life. Kor J Psychol.: Woman. 2006;11(2):163-186.
7. Kim MS, Kim HW, Cha KH, Lim JY, Han YS. Exploration of the structure of happy life and development of the happy life scale among Korean adults. Kor J Psychol.: Health. 2003;8(2):415-442.
8. Kiecolt-Glaser JK, Newton TL. Marriage and health: his and hers. Psychol Bull. 2001 Jul;127(4):472-503. DOI:10.1037/0033-2909.127.4.472.
9. Kim MJ. Middle-aged development. Seoul: Gyomoon Publishers; 1998.
10. Lee KH. A measure of marital intimacy. Fam Environ Res. 1995;33(4):235-249.
11. Lee KH. Marriage types classified by wives' perception of marital conflict and intimacy [dissertation]. [Seoul]: University of Seoul; 1998.
12. Koo BJ. The influence of resilience, hope, marital intimacy, and family support of quality of life for middle-aged women. J Korean Acad Psychiatr Mental Health Nurs. 2008 Dec;17(4):421-430.
13. Kozma A, Stones MJ. Predictors of happiness. J Gerontol. 1983 Sep;38:626-628.
14. Kwon YM, Yeun EJ. The self-rated health status and related factors in the urban elderly. JKDAS. 2009;11(3):1289-1305.
15. Lee SH, Ham EM. The relationship between the optimistic bias about cancer and cancer preventive

behavior of the Korean, Chinese, American, and Japanese adult residing in Korea. J Korean Acad Nurs. 2010 Feb;40(1):52-59. DOI:10.4040/jkan.2010.40.1.52
16. Ryu SA, Kim KM, Choi IC. The longitudinal effect of leisure on happiness and health in midlife. Korean J Psychol Cul Soc Issues. 2011;17(4):415-434.
17. Kwak KJ, Min HY, Kim KE, Choi JJ, Jeon SY. The relationship between happiness levels of middle-aged male workers with family relationships, non-family relationships and job satisfaction. KJHD. 2011;18(3):115-133.
18. Walker SN, Sechrist KR, Pender NJ. The health-promoting lifestyle profile: development and psychometric characteristics. Nurs Res. 1987 Mar-Apr;36(2):76-81.
19. Hwang SY. A study on health-promoting lifestyle and its affecting factors of nurses. [master's thesis]. [Chuncheon]: University of Hallym; 2003.
20. Jeon EY. Choi SR, Han SS. Influencing factors on health-promotion lifestyle of nurses. J East-West Nurs Res. 2007;13(1):40-47.
21. Suh EK, Koo JS. A concise measure of subjective wellbeing (COMOSWB): Scale development and validation. Kor J Soc Pers Psychol. 2011;25(1):96-114.
22. Cheon KI, Shin YH. Health promotion behavior, self-efficacy, marital intimacy, and successful aging in middle-aged. Journal Korean Acad Fundam Nurs. 2020 Aug;27(2):259-267. DOI:10.7739/jkafn.2020.27.3.259
23. Lee SW, Kim CW. A qualitative research on the experience of sexual relationship between the middle-aged and the elderly women. Korean Journal of Social Welfare Studies. 2015;46(2):125-151.
24. Chung HS. A study of development of the Korean-marital satisfaction scale. Fam Environ Res. 2001;39(12):205-224.
25. Mun MY. Impact of health promoting life style on successful aging and psychological well-being in middle-aged adults. JLCCI. 2017;17(10), 489-506. DOI:10.22251/jlcci.2017.17.10.489
26. Kim JK, Lee SH. Influential factors of the health promotion lifestyle of middle-aged who reside in a small and medium-sized city. J KSLES. 2015;22(2):237-244.
27. Levinson DJ. (Kim AS). The season of woman's life. Seoul: Ewha Woman University Press; 2004.
28. Kim MH, Choi YS. The effect of marital communication and marital intimacy on psychological well-being among middle-aged married men and women. JFBL. 2007;25(3):1-23.
29. Hong SH, Kwak IS. Effects of intergenerational support exchange with their adult children on the happiness of the middle-aged parents. J KFRMA. 2014;18(1):69-91.