

# Effects of Self-efficacy, Health Perception, Social Support and Perceived Disability on Health Promoting Behavior of Nursing Students

Mi Sun Lee<sup>1</sup>, Hee Kyung Kim<sup>2</sup>

<sup>1</sup>Doctoral student, Department of Nursing, Kongju National University, Gongju, South Korea,

<sup>2</sup>Professor, Department of Nursing, Kongju National University, Gongju, South Korea

## Abstract

**Purpose:** This study is a descriptive survey to investigate the relationship between health promoting behaviors and self-efficacy, health perception, social support and perceived disability and to identify factors affecting health promoting behaviors among nursing students.

**Method:** With the permission of the Education Committee of the Department of a University, 249 nursing college students explained the purpose and method of research and collected data with written consent. The data were analyzed by the t-test, ANOVA and Pearson's correlation and Stepwise Multiple Regression using the SPSS 24.0 program.

**Results:** The health promoting behaviors of the subjects were a positive correlation at the statically significant level at the self-efficacy ( $r=.73$ ,  $p<.001$ ), health perception ( $r=.50$ ,  $p<.001$ ), Social support ( $r=.62$ ,  $p<.001$ ) and a negative correlation at the perceived disability ( $r=-.29$ ,  $p<.001$ ). Regression analysis showed that health condition ( $\beta =-.144$ ,  $p <.001$ ), health concern ( $\beta=-.147$ ,  $p<.001$ ), self-efficacy ( $\beta=.523$ ,  $p<.001$ ) and social support ( $\beta=.199$ ,  $p<.001$ ) explained 62.0% of health promoting behaviors and health conditions, health concern, self-efficacy and social support were the main factors influencing health promoting behaviors of nursing student.

**Conclusion:** Through the result of this study, it is necessary to develop programs that allow nursing students to observe their health conditions and raise their interest in health and promote self-efficacy and social support.

**Keywords:** *Nursing students, Health promoting behaviors, Self-efficacy, Social support, Perceived disability.*

## Introduction

With the growing interest in health, health care method are emerging to improve health levels through changes in personal lifestyles and living environments, rather than health care which is practiced after getting a disease. The

WHO<sup>1</sup>, which calls the health care method as a health promoting behaviors, defines it as a health promoting behaviors which improves the health level of individuals and society that needs to be improved and maintained and maximizes health potential. Health promoting behaviors are affected by various sub-components, such as personal physiological, psychological, sociocultural factors, cognitive factors, previous related behaviors and behavior intentions. Specific health promoting behaviors include anti-smoking, anti-alcoholism, exercise, diet and stress management and such actions require a community-oriented and systematic approach, along with the legal and institutional support of the state,

---

### Corresponding Author:

**Hee Kyung Kim**

Professor, Department of Nursing, Kongju National University, Gongju, South Korea

e-mail: hkkim@kongju.ac.kr

rather than a personal approach to effectively operate health promotion.

The results of the study using the health promoting behavior model of Pender<sup>2</sup> shows that the variables of self-efficacy, health perception, perceived disability and social support were highly relevant with health promoting behaviors and influencing factors. Self-efficacy has been shown to be a main predictor and the most important factor for motivating health promotion. Health perception is said to have a significant impact on physical activity as it forms the basis for health promoting behaviors.<sup>3</sup> The study also found that perceived disability is a variable that affects health promoting behaviors<sup>4</sup> and the lower perceived disability of behavior, the higher level of health promoting behaviors.<sup>5</sup> The higher level of social support and relationship satisfaction was reported to have a positive effect on the practice of health promoting behaviors.<sup>6</sup>

Since nursing college students are prospective nurses, it is important to establish proper health promoting behaviors for nursing students because they will be responsible for education and role models for improving health promotion activities. However, health promoting behaviors are fundamentally not bounded and multidimensional, so it is necessary to study whether the health of college students has a significant effect on college life or how it is effective to help them improve their health. Although there are many papers that investigate health-related variables for nursing college students, comprehensive studies on factors such as self-efficacy, health perception, perceived disability and social support, which have been shown to significantly affect health promoting behavior, are not sufficient, therefore these important factors are used to help nursing college students establish health promoting behaviors and to provide basic data for developing health promotion programs.

## Method

**Subjects:** The subjects of this study were 250 nursing college students in 2nd, 3rd and 4th grades who majored in nursing at H University located in H province, Cheongnam in Korea. The number of participants was calculated by setting the level of 0.05 for significance, power of 0.95, effect size of 0.15 and 14 predictors using the G\*Power 3.1.9.2 program and the number of samples calculated was 194 among 250 subjects which were randomly selected considering the dropout rate of

20%. A total of 249 parts (99%) of 250 questionnaires were used as final analysis data, except for one of the unfaithful responses. A total of 249 copies were used as the final analysis data.

**Instruments:** Health promoting behavior: Measured by the health-promoting lifestyle measuring tool of Korean (adults) developed by Park<sup>7</sup>. It is a 5point Likert scale with total of 60 questions and indicates that the higher the score, the higher the level of health promoting behavior. The reliability at the time of development was Cronbach's  $\alpha=0.92$  and the reliability of this study is .94.

Self-efficacy: Measured by a tool which was developed by Sherer and Maddux<sup>8</sup> and supplemented by Lee<sup>9</sup>. It is a 5point Likert scale with total of 17 questions and indicates that the higher the score, the higher the level of self-efficacy. The reliability at the time of development was Cronbach's  $\alpha=0.85$  and the reliability of this study is .95.

Health perception: Measured by a tool which was developed by Ware<sup>10</sup> and supplemented by Lee<sup>10</sup>. It is 4point Likert scale with total of 20 questions and indicates that the higher the score, the higher the level of health perception. The reliability at the time of development was Cronbach's  $\alpha=0.72$  and the reliability of this study is .74.

Perceived disability: Measured by a tool which was developed by Moon<sup>11</sup> as a health belief measurement tool and modified by Seo.<sup>12</sup> It is a 4point Likert scale with total of 10 questions and indicates that the higher the score, the higher the level of perceived disability. The reliability at the time of development was Cronbach's  $\alpha=0.73$  and the reliability of this study is .86.

Social support: Measured by a tool which was developed by Park<sup>13</sup> It is a 5point Likert scale with total of 18 questions and 1 point of 'never', 5 point of 'always' indicates that the higher the score, the higher the level of social support. The reliability at the time of development was Cronbach's  $\alpha=0.95$  and the reliability of this study is .96.

**Data Collection:** This study was approved by the Board of Education of H College and published the research contents on the bulletin board of the nursing department between September and November 2019 and distributed questionnaires in groups at certain times and places. The research was collected after a fully trained assistant obtained written consent from the candidate

and completed the questionnaire in a written manner.

**Ethical Consideration:** Approved by the K University Institutional Bioethics Committee (KNU\_IRB\_2019-58) for this study. The survey was prepared with voluntary participation, there were no disadvantages of discontinuing the questionnaire and that the data would be processed anonymously. The information collected was used for three years for the study and promised to be stored in lockers.

**Date Analysis:** Using the SPSS/WIN 24.0 program, the general characteristics of the subjects were analyzed as frequency and percentages, the difference in health promoting behavior according to the general characteristics was t-test, ANOVA and Scheffe test, variables was mean and standard deviation and the correlation between variables was analyzed as Pearson’s correlation coefficient and the influence factor analysis was stepwise multiple regression.

### Results

**General Characteristics of Subjects:** The sex of the subjects was 214 (85.9%) of females, most of

them were 222 (89.2%) under 29 years of age and 138 (55.4%) of third graders were more than half. 171 people (68.7%) did not have a religion, 166 people (66.7%) were drinking alcohol and 230 people (92.4%) did not smoke and the academic grades of 161 people (64.7%) was in middle. The health condition answered their condition was moderate was 153 (61.4%), 142 (57.0%) were interested in their health and 184 (73.9%) responded that the economic status was moderate.

**Difference in Health Promoting Behavior across General Characteristics:** Gender (t=-1.97, p=.049), age (t=-2.58, p=.010), grade (t= 3.16, p=.044) and religious status (t=2.45, p=.015), drinking (t=.75 p=.454), smoking (t=-.921, p=.358), grades (t=5.05, p=.007), Health condition (t=25.35, p<.001), health concern (t=18.80, p<.001) and economic level (t=9.04, p<.001) showed differences in health promoting behavior. Male students, those in their 30s and over and those in a religious group, those who reported middle grades had higher levels of health promoting behavior. It is showed that the higher or moderate health condition, health concern and economic status tend to do health promoting behaviors (Table 1).

**Table 1: Difference in Health Promoting Behavior across General Characteristics**

Characteristics	Categories	Number	Frequency (%)	Mean±SD	Health promoting behavior t or F(p) Scheffe test
Sex	Female	214	85.9	3.19±.52	-1.97(.049)
	Male	35	14.1	3.38±.48	
Age	29 years old or younger	222	89.2	3.19±.52	-2.58(.010)
	30 years old or older	27	10.8	3.46±.41	
Grade	Second grader a	79	31.7	3.29±.49	3.16(.044)
	Third grader b	138	55.4	3.22±.53	a> c
	Fourth grader c	32	12.9	3.02±.48	
Religion	Yes	78	31.3	3.34±.50	2.45(.015)
	No	171	68.7	3.16±.52	
Academic grade	High a	29	11.6	3.27±.48	5.1(.007)
	Middle b	161	64.7	3.28±.51	-
	Low c	59	23.7	3.03±.53	
Health condition	Good a	56	22.5	3.56±.46	25.35(<.001)
	Moderate b	153	61.4	3.18±.45	a>b>c
	Bad c	40	16.1	2.88±.56	
Health concern	High a	90	36.1	3.42±.47	18.80(<.001)
	Middle b	142	57.0	3.15±.48	a,b>c
	Low c	17	6.8	2.69±.54	
Economic status	High a	18	7.2	3.38±.44	9.04(<.001)
	Middle b	184	73.9	3.27±.48	a,b>c
	Low c	47	18.9	2.94±.59	

**Health Promoting Behavior, Social Support, Self-efficacy, Health Perception and Perceived Disability:** The average score of health promoting behavior was  $3.22 \pm .52$  out of 5 points, self-efficacy was  $3.55 \pm 0.73$  out of 5 points, health perception was  $2.73 \pm 0.33$  out of 4 points and social support  $3.82 \pm 0.66$  out of 5 points. The perceived disability score was  $2.08 \pm 0.55$  out of 4 points.

**Correlation between Social Support, Self-efficacy, Health Perception, Perceived Disability and Health Promoting Behavior:** Health promoting behaviors were positive correlation in statistically significant with self-efficacy ( $r=.73, p<.001$ ), health perception ( $r=.50, p<.001$ ), social support ( $r=.62, p<.001$ ). There was negative correlation with perceived disability ( $r=-.29, p<.001$ ) (Table 2).

**Table 2: Correlation between Related variables and Health Promoting Behavior**

Variables	Self-efficacy r (p)	Health perception r (p)	Social support r (p)	Perceived disability r (p)
Health promoting behavior	.73(<.001)	.50(<.001)	.62(<.001)	-.29(<.001)

**Factors affecting Health Promoting Behavior:** In order to identify factors affecting the health promoting behavior of the subject, significant variables among the general characteristics were piled up as covariates and multiple regression analyses were performed in a step-by-step manner, including independent variables. In the regression analysis, there was no autocorrelation (Dubin-Watson=1.94) and the problem of multicollinearity was the tolerance limit -.915 was more than 0.1 and the VIF

was not more 1.09 to 1.78 under 10, so there was no problem.

The regression model for health promoting behavior was significant and explanator power was 62.0%. the health status ( $\beta=-.144, p<.001$ ), health concern ( $\beta=-.147, p<.001$ ), self-efficacy ( $\beta=.523, p<.001$ ) and social support ( $\beta=.199, p<.001$ ) was a significant factor in health promoting behavior (Table 3).

**Table 3: Factors affecting Health Promoting Behavior of Subjects**

Variables	B	SE	$\beta$	t	p
A constant	1.75	.202	8.690	.000	
Health condition	-.121	.036	-.144	-3.346	.001
Health concern	-.131	.037	-.147	-3.562	<.001
Self-efficacy	.372	.037	.523	10.120	<.001
Social support	.158	.042	.199	3.789	<.001
R=.788 R <sup>2</sup> =.620 Adj. R <sup>2</sup> =.614 F=99.63 p<.001					

**Discussion**

The health promoting behavior of the subjects was 3.22 out of 5 points, which was higher than 2.71 of Park & Kim<sup>14</sup> and lower than 3.28 of Kim & Yoon<sup>15</sup>. The health promoting behaviors of nursing college students need to be guided to live up to the point with health promoting behaviors continue to be moderate.

Health promoting behavior according to general characteristics showed significant differences in gender, age, grade, religion, academic grade, health status, health interest and economic status. Since men have higher health promoting behavior than women, it is necessary to encourage them to increase their interest in women. Age is under 29 years old and higher grades have lower health promoting behavior, so it is necessary to give

more attention to them. The health condition and health-related group showed better health promoting behavior than the lower group. A study in Baek et al.<sup>16</sup> found that groups with higher health conditions and higher health concerns performed better than those with lower health conditions, consistent with the results of a study in Kim, Kim and Park<sup>17</sup> that showed that the better health conditions, the more health importance is perceived, it tends to do actions such as health promoting behaviors. Therefore, it would be desirable to increase interest in health for nursing college students to maintain good health.

There was a significant correlation between the health promoting behavior, self-efficacy, health perception, social support and perceived disability of nursing college students and the most descriptive factors affecting health promoting behavior were self-efficacy, accounting for 52% of the total. These results are higher than 23.5% for them<sup>17</sup> and 23.9% for Park & Kim.<sup>15</sup> Since self-efficacy is believed to be able to successfully perform the necessary actions to achieve the desired results, it is necessary to develop programs that enhance the ability to communicate with health-related beliefs to improve the self-efficacy of nursing college students. Health perception was recognized at a normal level and was correlated with influenced by health promoting behavior. These results were similar to those of Hong<sup>3</sup> with an average of 3.42±.66 points. Nursing college students who are interested in health and maintain a steady state of health need to be encouraged to take good care of their health so that they can recognize their health as well as their patients in the future. Social support was also a main factor in health promoting behavior. The study by them<sup>17</sup> also showed high correlation with health promoting behavior, which is consistent with the results of this study. It is also advisable to establish a support group of family, peers and experts in relation to health in order to enhance the practice of health promoting behavior for nursing college students.

On the other hand, perceived disability has a negative relationship with health promoting behavior, so we should try to eliminate the uncomfortable environment that makes us avoid health promoting behaviors and create conditions for active health promotion.

### Conclusions

The purpose of this study was to identify factors affecting health promoting behavior for nursing college

students. Since the health promoting behavior of the subjects shows moderate values, the self-efficacy, health perception and social support should be considered and ongoing efforts and should be made to reduce health-related obstacles to better conduct health promoting behaviors. The higher the self-efficacy, health perception and social support of nursing students, the lower the perception of disability show the higher health promoting behavior so it is necessary to be included in the study. Factors affecting the health promoting behavior of nursing students are health conditions, health concerns, self-efficacy and social support, so that the health conditions are recognized well during everyday life and programs should be prepared to increase self-efficacy for students. It is also necessary to develop a well-developed support system to recognize that it has social support.

Since the subjects who were participated in this study are the future nurses, it is desirable to prepare policies and systems so that students can increase their health-promoting behaviors and implement them in the middle of their daily lives. In addition, research is also needed on the remaining factors that affect the health promoting behavior of nursing students.

**Ethical Clearance:** Not required

**Source of Funding:** Self

**Conflict of Interest:** Nil

### References

1. WHO. Global Health Observatory: Risk Factor, 2006.
2. Pender. NJ. Health promotion in nursing practice (3rd eds.). Norwalk, Conn: Appleton & Lange. Pender. N.J.1996.
3. Hong SH. A Convergence Study on Health Promotion Behavior of Nursing and Normal University Students The Korea Convergence Society, 2018,9(6), 339-346.
4. Kim HK. Health Promotion Behavior and Influence Factors of University Students Using Pender Models Journal of Women's Health Nursing. 2006, 12(2), 132-141.
5. Choi ES. Factors affecting emergency medical students' health-enhancing behavior using Pender models. Journal of the Korean Emergency Medicine, 2007, 11(2),5-17.

6. Oh HC. The deciding factor for national health 1: Health life habits. *The Journal of Prevention*. 1993,26(4),54-479.
7. Park IS. A study on the health-promoting lifestyle a doctoral dissertation from the graduate school of Pusan National University, 1995.
8. Sherer, M., Maddux, J.E., Mercadante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R.W. The self efficacy scale: Construction and validation. *Psychol rep*, 1982.51, 336-671.
9. Lee JH. A Study on the Prediction Factors of Health Promotion Behavior of Nurses Working at the Daily Medical Center and a Master's Degree thesis from Korea University. 1998.
10. Lee TH. Analyses of Variations Affecting Health Promotion Behavior and a thesis on the Master's Degree from Yonsei University's Graduate School. 1989.
11. Moon, JS. A Study of instrument development for health belief of Korean adults. Unpublished doctoral dissertation. Yonsei University, Seoul.. 1990.
12. Seo HM., Ha YS. Factors affecting the health lifestyle of the elderly. *Journal of the Korean Nursing Society*, 2004, 34(7), 1288-1297.
13. Park JW. A work study for the development of social support scale a doctoral dissertation from Yonsei University, 1985.
14. Park DY., Kim MJ. The effect of a nursing college student's family function, health awareness and self-efficiency on health promotion behavior. *the Korean Society of Contents Association*. 2017, 17(6),561-570.
15. Kim MS., Yoon SY. The Effect of Eating and Self-Efficiency on Health Promotion Behavior of Nursing University Students in the Unified Age a convergent journal. 2017, 7(2), 111-117.
16. Baek HJ et al. Factors affecting the health-promoting lifestyle of nursing college students. *The Korea Institute of Health Care*, 2011, 25(1), 73-83.
17. Kim JH, Kim SJ and Park YH. Factors affecting the health-promoting behavior of female college students. *Adult Nursing Society*, 2001,13(3), 433-440.