



# The Factors Associated with Health Promotion Behavior of International Students in South Korea

*Jieun Cha<sup>1</sup>, \*Hyunju Kang<sup>2</sup>, Juyoun Yu<sup>3</sup>, Mi Jin Choi<sup>4</sup>*

1. Department of Nursing, Suwon Science College, Hwasung-si, South Korea

2. College of Nursing, Kangwon National University, Chuncheon-si, South Korea

3. Department of Nursing, Changwon National University, Changwon-si, South Korea

4. Department of Nursing, Chodang University, Muan-gun, South Korea

\*Corresponding Author: Email: [hjkang@kangwon.ac.kr](mailto:hjkang@kangwon.ac.kr)

(Received 10 Aug 2020; accepted 11 Oct 2020)

## Abstract

**Background:** We aimed to explore the factors associated with health promotion behavior of international students in South Korea.

**Methods:** The convenience sample of 263 participants was recruited from two universities in Gangwon-do and Jeollanam-do, South Korea. The data were collected by using structured questionnaires from Apr to Jun 2019. Demographic characteristics, health conception, acculturative stress, self-efficacy, interpersonal support, and health promotion behavior were assessed. T-test, ANOVA, and multiple regression analyses were used for statistical analyses.

**Results:** Participants from Vietnam ( $P=.040$ ), with more health conception ( $P<.001$ ), more acculturative stress ( $P<.001$ ), more self-efficacy ( $P<.001$ ), and greater interpersonal support ( $P<.001$ ) were more likely to engage in more health promotion behaviors.

**Conclusion:** This study is meaningful as it collected the data on which to design health promotion programs for international students. Future studies are needed to investigate further factors relating to international students' health promotion behavior, including internal and external environments.

**Keywords:** International students; Health behavior; Health conception; Acculturative stress; Self-efficacy

## Introduction

According to the Korean ministry of education, in 2019, the number of international students who were studying at domestic universities was 160,165. This number has increased 2.1 times since 2009 (1). China provided the largest number of international students (44.4%), followed by Vietnam (23.4%), Uzbekistan (4.7%), Mongolia (4.6%), and Japan (2.7%), while students from America, Africa, and Europe are increasing (1). Given the growing number of international students in South Korea, attention and support are

needed for them to complete their studies and become members of Korean society.

International students experience many difficulties, such as low foreign language skills, cultural barriers, low academic achievement, lack of financial support, interpersonal problems, and homesickness. Together with these difficulties, they have various physical and mental health problems (2,3). Previous studies found that they presented health issues such as sex-related problems, oral



Copyright © 2022 Cha et al. Published by Tehran University of Medical Sciences.

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International license

(<https://creativecommons.org/licenses/by-nc/4.0/>). Non-commercial uses of the work are permitted, provided the original work is properly cited.

disease, eye fatigue, indigestion, stress, and depression (4,5). Even if international students in South Korea displayed health-promoting behaviors, such as walking, healthy eating, sleeping sufficient hours, and stress management (4,5), they still face a high probability of health risk behavior due to peer pressure, curiosity, difference in lifestyle, and socio-cultural background (6,7).

Health is the basic premise for maintaining an optimal life and functioning as a human being. Today, the approach to health is changing from a focus on disease treatment to disease prevention and health promotion. Steady and continuous health-promotion behavior is essential for a healthy life. In particular, college is a critical time for individuals, who are transitioning from late adolescence to early adulthood, to establish a healthy lifestyle through firm individual will (8). At the same time, it is also the phase where they tend to engage in health-threatening behaviors such as alcohol, smoking, and poor diet (9). Crucially, international students live in other countries during this important time, thus lacking a supportive environment, which would normally encourage healthy behavior. Therefore, more attention and consideration are needed to promote healthy behaviors in international students (2,10).

Pender's health promotion model (HPM) (11) consists of two major categories of predictors. One predictor is related to the individual characteristics and experiences, which include personal factors such as age, gender, self-esteem, perceived health status, culture, and socioeconomic status. The other predictor is related to behavior-specific cognition and affect as the major motivational mechanisms for health promotion behavior. These include perceived benefit of action, perceived barriers to action, perceived self-efficacy, activity-related affect, interpersonal influences, and situational influences. In HPM, the behavioral outcomes are defined as health-promoting behaviors. Health promotion is an action performed by an individual or group to achieve optimal well-being and to promote self-realization and the satisfaction of individual needs (11-13).

Previous studies on international students in South Korea were conducted mainly in relation to

cultural adaptation, depression, stress, use of medical service, and physical health conditions (3-5). However, little to no research has been conducted on their health promotion behaviors and other related factors. A study explored health promotion behaviors in Chinese students (14), but it was limited in the current domestic situation in which international students are flowing in from various countries. Moreover, although social support and self-efficacy were presented as major factors affecting university students' health promotion behavior (7,9), it is also necessary to examine the health perceptions of international students and to consider the stress caused by cultural adaptation, shown to affect behavior negatively (14).

The purpose of this study was to explore the factors associated with health promotion behaviors of international students in South Korea. Based on Pender's HPM, we considered the individual characteristics, self-efficacy, interpersonal support, and stress from cultural adaptation of people of different nationalities. Through this study, we intended to identify the main variables that affect health promotion behaviors of international students in South Korea and provide data for the development of health promotion programs addressed to them.

## Materials and Methods

### *Participants and Data collection*

For this cross-sectional descriptive survey, participants were recruited from two universities in Gangwon-do and Jeollanam-do, South Korea, through convenience sampling. Participants had lived in South Korea for more than three months to study. They were able to self-report in English or Korean with the aid of the research assistants. The sample size for the regression analysis, calculated with the G\*Power 3.1.9 program based on the effect size of 0.15, power of 0.9, significance level of  $P < .05$ , and 18 associated variables, was 183. We considered an attrition rate of 20% and set the sample size at 260. Overall, 263 participants were recruited and responded to the questionnaire from Apr to Jun 2019. Finally, 240 participants

were included in our study, after excluding 23 respondents who presented incomplete response and any outliers.

### **Measurements**

#### **Health conception**

The Laffrey health conception scale (LHCS) (15), was used to measure health conception. Twenty-eight self-reported items were rated on a 6-point Likert scale, ranging from 1 to 6, with a higher score indicating better health conception. Cronbach's  $\alpha$  for Laffrey's study (15) ranged from .867 to .884 and it was .930 for the present study.

#### **Acculturative stress**

The acculturative stress scale for international students (ASSIS) (16), evaluates perceived discrimination, homesickness, fear, guilt, perceived hate, and stress due to change. Thirty-six self-reported items were rated on a 5-point Likert scale, ranging from 1 (strongly agree) to 5 (strongly disagree). Higher scores are indicative of greater acculturative stress perceived. Cronbach's  $\alpha$  for the total items in Sandhu and Asrabadi (16) ranged from .87 to .95 and it was .974 for the present study.

#### **Self-efficacy**

The general self-efficacy scale (GSE) (17), was used to measure self-efficacy. Ten self-reported items were rated on a 4-point Likert scale, ranging from 1 (not at all true) to 4 (exactly true), with a higher score indicating a higher level of self-efficacy. Cronbach's  $\alpha$  for the GSE (18) ranged from .75 to .91 and it was .816 in the present study.

#### **Interpersonal support**

The interpersonal support evaluation list (ISEL) scale was used for measuring interpersonal support. ISEL was developed (19) and consisted of 12 self-reported items rated on a 4-point Likert scale, ranging from 1 (definitely false) to 4 (definitely true). A higher score meant the participants received more support from interpersonal relationships. In Cohen's study (19), Cronbach's  $\alpha$  ranged from .77 to .90, while it was .691 in the

present study.

#### **Health promotion behavior**

The health promoting lifestyle profile II (HPLP II) was used to measure health promotion behavior status. HPLP was developed (11) and revised to HPLP II in 1995 (12), which consists of 52 items rated on a 4-point Likert scale, ranging from 1 (never) to 4 (routinely). HPLP II measures the frequency of self-reported health-promoting behaviors in the domains of health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations, and stress management. A higher score indicated that the participants displayed more health promotion behaviors. Cronbach's  $\alpha$  for the present study was .954.

#### **Data analysis**

Data were analyzed using SPSS ver. 24.0 (Chicago, IL, USA). To describe the general characteristics and the research variables, descriptive statistics, including mean, standard deviation (SD), minimum, maximum, frequency, and percentage, were performed. Further, t-test and ANOVA were used to evaluate how the research variables differed according to general characteristics. The relationships among continuous research variables were examined with Pearson's correlation coefficients. Multiple regression analysis was conducted to investigate the factors associated with health promotion behavior.

#### **Ethical approval**

This study was approved by the Institutional Review Board (KWNUIRB-2019-03-001-001) of Kangwon National University. All participants were informed of the research purpose and confidentiality. After they agreed to participate and gave their written informed consent, data were collected.

### **Results**

The general characteristics of the 240 participants are described in Table 1. Nationalities included China (42.1%), Vietnam (27.1%), Uzbekistan (12.5%), Mongolia (5.8%), other Asian (7.9%),

and other non-Asian countries (4.6%). 65.0% were enrolled in an undergraduate course and 47.9% were living in a dormitory. Most of the participants (82.5%) had the health insurance for international

students by the Korean national health insurance plan. Half of them (51.3%) were staying in Korea from 1 to 3 years.

**Table 1:** Participants' Characteristics (N=240)

<i>Variables</i>	<i>Variable Categories</i>	<i>n</i>	<i>%</i>
Gender	Male	104	43.3
	Female	136	56.7
Age	Less than 25 yr	163	67.9
	25-29 yr	59	24.6
	More than 30 yr	18	7.5
Nationality	China	101	42.1
	Vietnam	65	27.1
	Uzbekistan	30	12.5
	Mongolia	14	5.8
	Other Asia	19	7.9
Religion	Other non-Asia	11	4.6
	None	162	67.5
	Protestant	4	1.7
	Catholic	2	0.8
	Buddhism	23	9.6
	Islam	39	16.3
Marital Status	Other	10	4.2
	Married	19	7.9
	Not married	221	92.1
Academic degree	Undergraduate course	156	65.0
	Master's course	50	20.8
	Doctoral course	18	7.5
	Other(Language course)	16	6.7
Major	Humanities / Language / Art	111	46.3
	Social science / Economics	100	41.7
	Engineering / Natural Science	29	12.1
Living in a dormitory	Yes	115	47.9
	No	125	52.1
Living type	Live alone	97	40.4
	Live together with	143	59.6
Economic status	High	13	5.4
	Middle	198	82.5
	Low	29	12.1
International Students Health insurance in Korea	Yes	198	82.5
	No	42	17.5
Length of stay in Korea	≥ 3 months, <1 year	34	14.2
	≥ 1 year, <3 yr	123	51.3
	≥ 3 yr	83	34.6
Body mass index (kg/(m*m))	<18.5	42	17.5
	≥18.5, <23	140	58.3
	≥23, <25	28	11.7
	≥25	30	12.5

The mean scores of health conception, acculturative stress, self-efficacy, and interpersonal support were 4.36 (SD 0.66), 2.92 (SD 0.82), 2.99 (SD 0.45), and 2.69 (SD 0.42), respectively. The total

mean score of health promotion behavior was 2.76 (SD 0.46). The scores for the sub-categories of health promotion behavior are presented in Table 2.

**Table 2:** Health Conception, Acculturative Stress, Self-efficacy, Interpersonal Support and Health Promotion Behavior of participants (N=240)

<i>Variables</i>	<i>Items</i>	<i>Mean ± SD</i>	<i>(Min, Max)</i>
Health Conception	28	4.36±0.66	(2.14, 6.00)
Acculturative Stress	36	2.92±0.82	(1.08, 4.75)
Self-efficacy	10	2.99±0.45	(2.00, 4.00)
Interpersonal Support	12	2.69±0.42	(1.25, 4.00)
Health Promotion Behavior total	52	2.76±0.46	(1.46, 4.00)
Health responsibility	9	2.63±0.61	(1.00, 4.00)
Physical activity	8	2.64±0.62	(1.00, 4.00)
Nutrition	9	2.72±0.55	(1.33, 4.00)
Spiritual growth	9	2.93±0.48	(1.22, 4.00)
Interpersonal relations	9	2.86±0.46	(1.67, 4.00)
Stress management	8	2.76±0.49	(1.50, 4.00)

There were statistically meaningful differences in total score of health promotion behavior according to age ( $F=4.651$ ,  $P=.010$ ), nationality ( $F=4.668$ ,  $P<.001$ ), academic degree ( $F=3.596$ ,  $P=.014$ ), and whether they were living in a dormitory ( $t=2.845$ ,  $P=.005$ ) (Table 3).

Table 4 shows the Pearson's correlations between the research variables and health promotion behavior. Health promotion behavior was positively correlated with health conception ( $r=.460$ ,

$P<.001$ ), acculturative stress ( $r=.416$ ,  $P<.001$ ), and more self-efficacy ( $r=.376$ ,  $P<.001$ ).

The multiple regression analysis of health promotion behavior is presented in Table 5. The regression model explained 44.1% of the variance. Participants from Vietnam ( $P=.040$ ), with more health conception ( $P<.001$ ), more acculturative stress ( $P<.001$ ), more self-efficacy ( $P<.001$ ), and greater interpersonal support ( $P<.001$ ) were more likely to engage in more health promotion behaviors.

**Table 3:** Health Promotion Behavior according to participants' characteristics (N=240)

<i>Variables</i>		<i>Mean ± SD</i>	<i>t/F(P)</i>
Gender	Male	2.79±0.48	0.875 (.382)
	Female	2.73±0.44	
Age	Less than 25 yr	2.81±0.47	4.651 (.010) a>c*
	25-29 yr	2.68±0.44	
	More than 30 yr	2.52±0.30	
Nationality	China	2.80±0.44	4.668 (<.001) b>e*
	Vietnam	2.88±0.44	
	Uzbekistan	2.74±0.48	
	Mongolia	2.47±0.42	
	Other Asia	2.45±0.41	
	Other non-Asia	2.57±0.46	

Religion	None	2.79±0.45	0.755 (.583)
	Protestant	2.63±0.25	
	Catholic	2.69±0.30	
	Buddhism	2.76±0.42	
	Islam	2.66±0.47	
	Other	2.63±0.65	
Marital Status	Married	2.68±0.55	-.788 (.432)
	Not married	2.77±0.45	
Academic degree	Undergraduate course	2.82±0.49	3.596 (.014) a>b*
	Master's course	2.60±0.35	
	Doctoral course	2.62±0.33	
	Other(Language course)	2.77±0.42	
Major	Humanities / Language / Art	2.74±0.40	0.359 (.699)
	Social science / Economics	2.79±0.49	
	Engineering / Natural Science	2.74±0.54	
Living in a dormitory	Yes	2.84±0.42	2.845 (.005)
	No	2.68±0.48	
Living type	Live alone	2.72±0.46	-1.006 (.315)
	Live together with	2.78±0.45	
Economic status	High	2.81±0.51	1.509 (.223)
	Middle	2.77±0.46	
	Low	2.62±0.44	
International Students	Yes	2.77±0.45	0.721 (.471)
Health insurance in Korea	No	2.71±0.49	
Length of stay in Korea	≥ 3 months, <1 year	2.77±0.48	1.582 (.208)
	≥ 1 year, <3 yr	2.71±0.41	
	≥ 3 yr	2.82±0.51	
Body mass index	<18.5	2.79±0.50	0.405(.749)
	≥18.5, <23	2.76±0.46	
	≥23, <25	2.77±0.43	
	≥25	2.68±0.43	

\*Scheffe( $P<.05$ )

**Table 4:** Correlation among Health conception, Acculturative Stress, Self-efficacy, International Support, and Health Promotion Behavior (N=240)

Variables	1	2	3	4
1.Health Conception	1			
2.Acculturative Stress	-.001 (.993)	1		
3.Self-efficacy	.576** (<.001)	.038	1	
4.Interpersonal Support	.117 (.070)	-.404** (<.001)	.149* (.021)	1
5.Health Promotion Behavior	.460** (<.001)	.416** (<.001)	.376** (<.001)	.017 (.791)

\* $P<.05$ , \*\* $P<.01$

**Table 5:** Multiple regression of Health Promotion behavior (N=240)

<i>Variables</i>	<i>Variable Categories</i>	<i>B</i>	<i>Standard error</i>	<i>β</i>	<i>t</i>	<i>P</i>
	(Constant)	0.161	0.260		0.618	.537
Age	Less than 25 yr	ref				
	25-29 yr	0.027	0.068	0.025	0.395	.693
	More than 30 yr	0.016	0.107	0.009	0.146	.884
Nationality	China	ref				
	Vietnam	0.127	0.061	0.123	2.061	.040
	Uzbekistan	-0.036	0.079	-0.026	-0.458	.647
	Mongolia	-0.080	0.108	-0.041	-0.743	.458
	Other Asia	-0.179	0.090	-0.105	-1.994	.047
Academic degree	Other non-Asia	-0.135	0.119	-0.062	-1.131	.259
	Undergraduate	ref				
	Master's course	-0.089	0.073	-0.079	-1.206	.229
	Doctoral course	-0.149	0.101	-0.086	-1.469	.143
Living in a dormitory	Other(Language)	0.098	0.095	0.054	1.036	.301
	Yes	ref				
	No	-0.074	0.052	-0.081	-1.432	.154
Health Conception		0.268	0.043	0.388	6.261	<.001
Acculturative Stress		0.207	0.033	0.368	6.309	<.001
Self-efficacy		0.154	0.063	0.150	2.446	.015
Interpersonal Support		0.153	0.060	0.141	2.542	.012
R <sup>2</sup> : .476 adjusted R <sup>2</sup> : .441 F(P)=13.573(<.001)						

## Discussion

In this study, health-promoting behavior score was 2.76 (SD 0.46) out of four. This is similar to the results of previous studies for Chinese and Vietnamese students in South Korea (5,20). The present study included participants of various nationalities, but the majority were from China and Vietnam. Nonetheless, Korean college students' health promotion behaviors were lower than those of the international student (5, 21). Moreover, the present results showed that spiritual growth was the highest and health responsibility was the lowest among sub-domain's scores. Contrary to these results, Korean students' health promotion behaviors were the highest in interpersonal support and the lowest in health responsibility (21). These differences in health promotion behaviors between

Korean and international students are believed to arise from differences in the perception and behavior towards the health-promoting lifestyle of the environments they grew up in. Therefore, to enhance health-promoting activities for international students in South Korea, it is necessary to adopt a distinct approach and content composition to that adopted for domestic students. There were statistical differences in health promotion behaviors according to age, nationality, academic degree, and whether they lived in a dormitory. Health promotion behavior was higher for those under 25 yr old compared to those over 30. This result was also shown in academic degree, as international students in undergraduate programs presented healthier behaviors compared to those

attending a master's program. Another study revealed no difference between students under and over 25 yr old (22). Most international students over 25 yr old advanced to higher education. The older the international students were, the less their academic adaptability decreased (23). Therefore, it is necessary to establish an intervention strategy for health promotion after exploring the relevance of academic adaptation and health behaviors among international students in a master's program or higher. In this study, Vietnamese students had healthier promoting behaviors compared to other Asian students. Until now, studies had been conducted primarily on Chinese students living in South Korea (24). However, few studies have been conducted on health behavior and acculturation of Vietnamese students, who comprise the second-largest group of international students in South Korea (25,26). It is encouraging for Vietnamese students to improve their health life, but attention to students of other Asian nationalities is also required. Furthermore, in this study, health promotion behaviors among international students residing in dormitories were higher than that of non-dormitory residents. This finding differs from another result (22), since the participants of the present study were from universities in small and medium-sized cities in South Korea. Therefore, it is necessary to account for the environment, for instance by providing practical support to enable international students to live in universities and opportunities to access healthcare through out-of-school communities.

The factors associated with the health promotion behaviors of international students in South Korea were nationality, health conception, acculturative stress, self-efficacy, and interpersonal support. High health conception means absence of illness, ability to function as expected roles, adaptation to environmental stresses, and achievement of self-realization (15). In the results of this study, the higher the perception of health, the more the international students in South Korea may display health promotion behaviors. It is similar to the study targeting domestic college students (27). Therefore, for international students to adopt a

healthy lifestyle, they should be allowed to recognize and care about their health. Self-efficacy, a key proposition of HPM, influences perceived barriers to action. Higher self-efficacy results in a lowered perception of barriers and it motivates health-promoting behaviors (28). This study proved that, after controlling for other variables, self-efficacy in international students affected their health-promoting behaviors. In the future, when designing health promotion programs for international students, it is necessary to first check their self-efficacy and focus on low self-efficacious students.

Acculturative stress indicates the perceived stress during the process of adapting to different cultural values, languages, and sociocultural environments (29). Acculturative stress in international students may result in poor physical and mental health conditions, such as sleep disturbance, low appetite, fatigue, headache, gastrointestinal problems, and depression (4,5). Asian international students in the USA have shown a positive association between acculturative stress and depression (30). Furthermore, acculturative stress had a negative effect on health promotion behaviors (14). Nevertheless, Chinese students did activities that are more physical after they arrived in the USA (31). The present study showed that higher acculturative stress caused more health-promoting behaviors. In other words, the more stressed the participants were due to cultural adaptation, the healthier a lifestyle they had. The acculturation of health behavior is influenced by individual, environmental, and cultural background factors, and the international student's different attitudes toward the new culture (32). Some international students are more open and active in adopting the new lifestyle and others retain the same lifestyle before and after visiting another country (32). In this study, the acculturative stress mean score of the participants was 2.92 (SD 0.82) on a five-point scale, indicating that it was not high. Moreover, most of them were Chinese and Vietnamese students who belonged to a similar culture to South Korea. It means that they do not experience high levels of stress in adapting to South Korea. In the future, a study on the relationship between acculturative stress and health



promotion behavior, which is likely to be mediated by a variety of variables, including acculturation level and degree of similarity between new and original culture, is needed. Furthermore, longitudinal research is needed to explore the process of health promotion lifestyle change in international students from various cultural backgrounds. Cultural intelligence represented a significant moderator of the relationship between acculturative stress and somatic health symptoms (33). Cultural intelligence is an ability that allows individuals to understand and adapt effectively to different cultures (33). Since cultural intelligence affects the individual's behavior, it is needed to explore the relevance of an individual's health, cultural intelligence, and health life behaviors. Interpersonal support for international students affects their academic success and engagement in the new culture (34). Additionally, interpersonal support encouraged health-promoting behaviors. Therefore, it would be advisable to organize and operate health promotion programs for international students using interpersonal resources.

There were several limitations to this study. First, the cross-sectional research design is inadequate at making inferences about causality. Therefore, in the future, a longitudinal study is recommended to identify the causal relationship between variables. Second, convenience sampling was employed and the participants were recruited from two universities in South Korea, which limits a generalization of the results. This study presents the basic data for focusing on international students in South Korea and providing them with the health promotion intervention needed to adapt to Korean society and succeed in their studies.

## Conclusion

This study identified the factors associated with the health promotion behaviors of international students in South Korea: Vietnamese nationality, high health conception, high acculturative stress, high self-efficacy, and high interpersonal support. This study is meaningful as it collected the data on which to design health promotion programs for

international students. Future studies are needed to investigate further factors relating to international students' health promotion behavior, including internal and external environments.

## Ethical considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

## Acknowledgements

This study was supported by 2018 Research Grant from Kangwon National University (No. 520180087).

## Conflict of interest

The authors declare that there is no conflict of interest.

## References

1. Korean ministry of education [internet]. International students statistics in domestic high education institute. <http://english.moe.go.kr/sub/info.do?m=020105&s=english>
2. Sherry M, Thomas P, Chui. WH (2010). International students: a vulnerable student population. *Higher Education*, 60:33-46.
3. Kim OS (2015). A structural equation model of coping with acculturative stress and college adaption among international students in Korea. *Multicultural Education Studies*, 8(3): 109-131.
4. Lee NY, Han JO (2011). Health status of international students in Korea. *Journal of East-West Nursing Research*, 17(1): 48-56.
5. Do EY, Cho IS (2009). Comparison of perceived health status, health promoting behaviors and depression between Korean and foreign students at a women's university. *Journal of Korean Academy of Community Health Nursing*, 20(2): 161-168.

6. Chen MY, James K, Wang EK (2007). Comparison of health-promoting behavior between Taiwanese and American adolescents: a cross-sectional questionnaire survey. *Int J Nurs Stud*, 44(1): 59-69.
7. Park SJ, Choi SH (2006). Factors influencing health promotion behavior of Korean students in China. *J Korean Acad Funda Nurs*, 13(2): 269-274.
8. Oh JW, Moon YS (2014). A predictive model of health promotion behavior in nursing students. *Journal of Digital Convergence*, 12(10): 391-403.
9. Han KS (2005). [Self-efficacy, health promoting behaviors, and symptoms of stress among university students]. *Taeahan Kanho Hakboe Chi*, 35(3): 585-92
10. Bhandari P (2012). Stress and health related quality of life of Nepalese students studying in South Korea: A cross sectional study. *Health Qual Life Outcomes*, 10: 26.
11. Walker SN, Sechrist KR, Pender NJ (1987). The health-promoting lifestyle profile: development and psychometric characteristics. *Nurs Res*, 36(2):76-81.
12. Walker SN, Sechrist KR, Pender NJ (1995). Health promotion model-instruments to measure health promoting lifestyle: health-promoting lifestyle profile [HPLP II] (Adult version). University of Michigan, Deep Blue. <https://deepblue.lib.umich.edu/handle/2027.42/85349>
13. Peterson SJ, Bredow TS (2017). *Middle range theories: application to nursing research and practice*. 4th ed. Philadelphia: Wolters Kluwer.
14. Kim SJ, Yoo IY (2016). Health promotion behavior of Chinese international students in Korea including acculturation Factors: a structural equation model. *Asian Nursing Research*, 10: 25-31.
15. Laffrey SC (1986). Development of a health conception scale. *Res Nurs Health*, 9(2): 107-13.
16. Sandhu DS, Asrabadi BR (1994). Development of an acculturative stress scale for international students: preliminary findings. *Psychol Rep*, 75(1 Pt 2):435-48.
17. Schwarzer R, Jerusalem M. (1995). Generalized self-efficacy scale. Measures in health psychology: A user's portfolio. *Causal and Control Beliefs*, 35-37.
18. Scholz, U, Doña, BG, Sud S, et al (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *European Journal of Psychological Assessment*, 18(3): 242-251.
19. Cohen S, Memelstein R, Kamarck T, et al (1985). *Measuring the functional components of social support*. In I.G. Sarason & B. Sarason (Eds.). *Social support: Theory, research and application*. The Hague: Martinus Nijhoff.
20. Jeong HS (2012). Health promoting behaviors and differences according to subjects' characteristics among Chinese students in Korea. *Journal of the Korean Data Analysis Society*, 14(1): 231-245.
21. Hwang AR, Kang HW (2019). Influence of e-health literacy on health promoting behaviors among university students. *Journal of the Korean Society of School Health*, 32(3): 165-174.
22. Jin XL, Kim JS, Kim DH (2011). A comparison of health-promoting behaviors of Han-Chinese to Korean-Chinese university students in Korea. *The Journal of the Korean Society of School Health*, 24(1): 89-98.
23. Jang KO (2018). Convergence research on academic adjustment of foreign students. *Journal of the Korea Convergence Society*, 9(11): 169-177.
24. Liu H, Jang JS (2018). A study on the dietary habits, life habits, drink preference and intake according to the Chinese students' gender in Gyeonggi province. *The Korean Journal of Food and Nutrition*, 31(2): 293-300.
25. Kim HJ (2018). A comparative study on the acculturation of international students studying in Korea: focusing on Chinese, Vietnamese, Mongolian, Japanese international students. *Journal of Korean Language Education*, 29(4): 31-63.
26. An NY, Le MT, Park CH, et al (2019). A comparative study of eating behavior and self-body image, weight control between Korean and Vietnamese students. *The Korean Journal of Sport*, 17(4): 815-824.
27. Woo BJ, Lee HK (2019). Effects of health perception, self-efficacy and social support of college students on the health promotion behaviors. *Journal of the Korean Applied Science and Technology*, 36(4): 1290-1302.
28. Pender N, Murdaugh C, Parsons MA (2014). *Health promotion in nursing practice (7th ed.)*. Upper Saddle River, NJ: Prentice Hall.
29. Smith RA, Khawaja, NG (2011). A review of the

- acculturation experiences of international students. *International Journal of Intercultural Relations*, 35(6): 699-713.
30. Wei M, Heppner PP, Mallen MJ, et al (2007). Acculturative stress, perfectionism, years in the United States, and depression among Chinese international students. *Journal of Counseling Psychology*, 54(4): 385-394.
  31. Yan Z, Cardinal BJ (2013). Perception of physical activity participation of Chinese female graduate students: A case study. *Res Q Exerc Sport*, 84(3): 384-96.
  32. Yan Z, FitzPatrick K (2016). Acculturation and health behaviors among international students: a qualitative approach. *Nurs Health Sci*, 18(1): 58-63.
  33. Ayoob M, Alsultan A (2017). Cultural intelligence as a moderator of acculturative stress to health among college students. *Int J Sci Res*, 6(4): 1905-1910.
  34. Arthur N (2017). Supporting international students through strengthening their social resources. *Studies in Higher Education*, 42(5): 887-894.