ISSN (Print): 0974-6846 ISSN (Online): 0974-5645

### A Study on the Relationship among Eating Habit, Menu Selection Behavior, Self-Efficacy in Korean Nursing Students

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#### **Abstract**

**Objectives:** It is a descriptive correlation study which aims to understand the relationship among eating habit, menu selection behavior, self-efficacy of nursing students. **Methods/Statistical Analysis:** The subjects of this study was 215nursing students of B University in C city and the data was collected using the structured questionnaire from March to April June in 2016/ This study was analyzed using SPSSWIN 18.0. The data were analyzed with t-test, ANOVA, Pearson's correlation. **Findings:** Eating habit showed difference in accordance with grade (F=3.99, p=.009), parental interest to children's health (F=3.53, p=.031), residential type (F=3.17, p=.025), health condition (F=5.12, p=.001). As for the menu selection pursuing health, the difference was detected in accordance with grade (F=3.59, p=.014), health condition (F=3.13, p=.016), and the menu selection pursuing feeling showed difference in accordance with health condition (F=3.55, p=.008). But menu selection pursuing convenience was not significant variable. The self-efficacy showed difference in accordance with grade (F=6.10, p=.001), gender (t=2.07, p=.039), health condition (F=6.01, p<.001). Self-efficacy had significant positive correlation to eating habit (r=.29 p<.001), menu selection pursuing health (r=.21 p<.001). And self-efficacy had significant negative correlation to menu selection convenience (r=-.26 p<.001). **Improvements/Applications:** When forming proper eating habit and menu selection behavior based on self-efficacy, the quality of life is increased. This study provides basic data to educational program development.

**Keywords:** Eating Habit, Lifestyle, Menu Selection Behavior, Nursing Student, Self-Efficacy

#### 1. Introduction

As the development of economy brought about the increase in average life span, the interest in health led to interest in healthy food. On the contrary, it is easier to obtain unhealthy food. Lifestyle for better health includes health responsibility, nutrition, exercise, stress control, social relationship and self-realization<sup>1</sup>. Adolescence is a time rapid growth, these physical changes mean increased nutritional needs<sup>2</sup>. However, most of the secondary school students eat lunch or even dinner in school restaurant, and college students have unsettled meal time due to time table inconsiderate of meal time, frequent meal skipping, eating on late time, smoking and drinking<sup>3</sup>. This limits the menu selection and can cause lifestyle disease.

Eating habit is not created in short-term; it is rather formed through growing process in family, school, and social education. The wrong habit will later cause the problem in health, and cannot be changed easily, so it is very important to form good eating habit. College students as in the mid of growing into mature adult physically and socially should have healthy nutrition for the quality of life. Before the college students get into part of society, the college should provide education and examine the knowledge, attitude and behavior regarding health.

Self-efficacy is major decision factor of behavioral change which connects subjective acknowledgement and actual behavior based on belief that one can successfully compose behavioral process and conduct to achieve a result. Strong self-efficacy causes desire and

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improves individual achievement and stability. Also, an individual with self-efficacy puts more effort for health improvement. Health improvement behavior is heavily influenced by self-efficacy. Exercise, which is one of the health improvement lifestyle, has a positive influence on self-efficacy. There is a need to verify the relationship between self-efficacy and diet, menu selection regarding nutrition. Therefore, this study aims to verify the relationship between the eating habit, menu selection and self-efficacy of college students to provide basic material for education to lead college students to set good eating habit and to practice.

Healthy eating habit is directly connected to healthy body, which makes forming good eating habit as essential element for everyone, and therefore, it is significant for college students to have good eating habit for healthy life. Eating habit has significant influence on comfortable life as health is important. When comparing the college students in Northern Greece to American Heart Association guideline, they consume too much fat, lack in folic acid, Vitamin E, and fiber<sup>10</sup>, while the study subjecting French students<sup>11</sup>, the school cafeteria menu played important role in students' eating habit formation.

**Table 1.** Characteristics of the Subjects (N = 215)

Variables	Categories	M±SD(Range)
		or n(%)
Age(yr)		20.58±2.16
		(17-40)
Grade	1st	52(24.2)
	2nd	56(26.0)
	3rd	53(24.7)
	4th	54(25.1)
Gender	Male	36(16.7)
	Female	179(83.3)
Parental interest on their	Very much	74(34.4)
child health	Much	115(53.5)
	No interest	26(12.1)
The form of live	Lived apart from	119(55.3)
	his family	
	Boarding house	5 2.4)
	Dormitory	14( 6.5)

	Family	77(35.8)
Health condition	Very good	16(7.4)
	Good	71(33.0)
	Average	92(42.8)
	Bad	33(15.3)
	Very bad	3( 1.4)

Individual eating habit regarding menu selection is studied in long-term socially and by culture based on acknowledgement and experience. Individual preference and acceptance is self-expression in eating habit, and forms behavior to choose various menus. In<sup>12</sup> reported health was the most significant element in menu selection of Italian<sup>13</sup>; while astudy<sup>14</sup> reported higher self-efficacy tend to seek health-oriented eating habit. As lack of time and easier purchase leads people to instant food or fast food, taste, flavor, atmosphere and other senses are stimulated to choose menu. Food for convenience causes lifestyle disease or personality disorders<sup>15</sup>.

Self-efficacy is one of the psychological elements that has significant influence in continuing and choosing behavior<sup>16</sup>, and influences thinking and behavior of human<sup>17</sup>. The higher the self-efficacy is, one is more likely to organize and conduct action necessary to achieve objective, but the lower the self-efficacy is, one forms negligence and lethargy to oneself<sup>18</sup>. Self-efficacy is an important variable in choosing healthy menu and continuing good eating habit.

#### 2. Proposed Work

#### 2.1 Research Plan

This study is a descriptive correlation study which aims to understand the relationship among eating habit, menu selection behavior, self-efficacy of nursing students.

#### 2.2 Study Subject

This study subjects 200 nursing students who attend B University in C city. The data collection period is from April to May 2016, and the study subjects were provided with explanation regarding the objective and ethics of study, questionnaire answering method and subjected to answer. Based on G power 3.1 programs and setting the influence scale as .30, significance as .05, and test power

as .95 for correlation, the subject sample count was 135. Excluding insincere or no-answer copies of 15, total 215 copies were analyzed for the study.

#### 2.3 Research Tool

The study tool used in this study is questionnaire, which is composed of 10 questions regarding eating habit as a tool revised13 used by11 and12. Each questions are answered in Likert scale from 1 point for "Never" to 5 point for "Very much", which the higher point indicates better eating habit. Cronbach's  $\alpha$ = .74. As for the menu selection behavior, based on the menu selection procedure model on 19, it was composed of total 11 questions which conceptualized<sup>13</sup> in 4 health pursue behavior, 3 convenience pursue behavior, 4 sense pursue behavior which is composed of 10 questions regarding eating habit as a tool revised13 used by11 and12. Each questions are answered in Likert scale from 1 point for "Never" to 5 point for "Very much", which the Cronbach's  $\alpha$ = .79, .76, .74. There were 28 questions for self-efficacy as the applies to college students. Each questions are answered in Likert scale from 1 point for "Never" to 5 point for "Very much", which the higher point indicates higher self-efficacy. The Cronbach's  $\alpha = .88$ .

#### 2.4 Data Analysis

The collected data was analyzed using SPSSWIN 18.0. General characteristics of subject, eating habit, menu selection behavior were analyzed using frequency, percentage, arithmetic mean; standard deviation utilized technological statistics method. Difference of eating habit, menu selection behavior, self-efficacy to general characteristics was analyzed using t-test, ANOVA and Bonferroni post examination. The relationship among eating habit, menu selection behavior, self-efficacy knowledge was calculated using Pearson correlation coefficients.

#### 3. Research Result

#### 3.1 General Characteristics of Subject Group

Age of subject group is between 17 and 40, average of 20.58(SD=2.16). Male subject was 16.7%(36) and the subject who answered parents had not be interest to health of their children was 12.1%(26). 55.3%(119) of the student lived apart from home, and the students who answered their health is above average was 83.3%(179)(Table 1).

## 3.2 Eating Habit, Menu Selection (Pursuing Health, Pursuing Convenience, Pursuing Feeling) Behavior, Self-Efficacy

The eating habit score of subject is between 11 to 46, average of 26.10(SD=6.08), menu selection pursuing health between 4-20, average of 10.33(SD=3.07), menu selection pursuing convenience between 3-15, average of 8.01(SD=2.63), menu selection pursuing feeling between 4-20, average of 11.93(SD=3.03). And self-efficacy score between 58-112, average of 84.67(SD=10.67)(Table 2).

**Table 2.** Descriptive Statistics of Major Variables (N=215)

Variables	M±SD	Range
Eating habit	26.10± 6.08	11- 46
Menu selection pursuing health	10.33± 3.07	4- 20
Menu selection pursuing convenience	8.01± 2.63	3- 15
Menu selection pursuing feeling	11.93± 3.03	4- 20
Self-efficacy	84.67±10.67	58-112

# 3.3 Eating Habit, Menu Selection (Pursuing Health, Pursuing Convenience, Pursuing Feeling) Behavior, Self-Efficacy in Accordance with the General Characteristics

Eating habit showed difference in accordance with grade (F=3.99, p=.009), parental interest to children's health(F=3.53, p=.031), residential type(F=3.17, p=.025), health condition (F=5.12, p=.001). As for the menu selection pursuing health, the difference was detected in accordance with grade (F=3.59, p=.014), health condition (F=3.13, p=.016), and the menu selection pursuing feeling showed difference in accordance with health condition (F=3.55, p=.008). But menu selection pursuing convenience was not significant variable. The self-efficacy showed difference in accordance with grade (F=6.10, p=.001), gender (t=2.07, p=.039), health condition (F=6.01, p<.001).

3rd and 4th grader had higher eating score than 2nd grader, the group with parental interest to children's health was higher in score, and as for the residential type, the group living with family had the highest score, but it was not significant in after case examination. Finally, the group with very good health had higher score than those with average or bad health.

Table 3. Eating habit, Self-efficacy to General Characteristics (N=215)

Variables	Categories	Eating habit		Self-efficacy	Self-efficacy	
		M±SD	t/F(p) bonferroni	M±SD	t/F(p) bonferroni	
Grade	1st <sup>a</sup>	26.28±6.50	b <c, d<="" td=""><td>83.00±10.20</td><td>b<c, d<="" td=""></c,></td></c,>	83.00±10.20	b <c, d<="" td=""></c,>	
	2nd <sup>b</sup>	23.82±5.36		80.60±9.38		
	3rd <sup>c</sup>	27.07±5.67		87.86±12.27		
	4th <sup>d</sup>	27.33±6.25	3.99(.009)	87.38±9.88	6.10(.001)	
Gender	Male	26.02±6.98		88.08±10.73		
	Female	26.11±5.90	08(.936)	83.99±10.77	2.07(.039)	
Parental interest on child health	Very much <sup>a</sup>	27.32±6.82	a>c	85.44±11.38		
	Much <sup>b</sup>	25.83±5.69		84.70±10.67		
	No interest <sup>c</sup>	23.80±4.74	3.53(.031)	82.38±10.07	.76(.467)	
The form of live	Lived apart from his family <sup>a</sup>	25.41±6.12		85.33±10.97		
	Boarding house <sup>b</sup>	24.20±2.04		86.00±13.49		
	Dormitory	23.85±6.58		85.07±10.04		
	Family <sup>d</sup>	27.70±5.80	3.17(.025)	83.50±10.74	.47(.702)	
Health condition	Very good <sup>a</sup>	31.62±7.83	a>b, c, d	98.12±10.89	a>b, c, d	
	Good <sup>b</sup>	26.36±6.14		83.92±11.09		
	Average <sup>c</sup>	25.86±5.28		84.18±9.42		
	Bad <sup>d</sup>	23.78±5.59		81.54±9.77		
	Very bade	23.00±7.21	5.12(.001)	80.33±12.34	8.01(<.001)	

Table 4. Menu selection behavior to General Characteristics (N=215)

Variables	Categories	Health pursuit		Convenience pursuit		Feeling pursuit	
		M±SD	t/F(p)	M±SD	t/F(p)	M±SD	t/F(p)
			bonferroni		bonferroni		bonferroni
Grade	1st <sup>a</sup>	10.42±3.00	b <d< td=""><td>8.11±2.29</td><td></td><td>12.01±2.65</td><td></td></d<>	8.11±2.29		12.01±2.65	
	2nd <sup>b</sup>	9.26±2.48		8.10±2.51		12.05±2.91	
	3rd <sup>c</sup>	10.58±3.35		7.66±2.83		12.07±3.46	
	4th <sup>d</sup>	11.09±3.18	3.59(.014)	8.18±2.90	.43(.726)	11.57±3.11	.33(.803)
Gender	Male	10.75±3.44		7.44±2.34		12.47±3.71	
	Female	10.24±2.99	.89(.371)	8.13±2.68	-1.43(.153)	11.82±2.88	1.17(.242)

Parental interest Onchild health	Very much <sup>a</sup>	10.48±3.43		7.51±2.62		11.86±3.45	
	Much <sup>b</sup>	10.27±2.96		8.19±2.56		11.80±2.74	
	No interest <sup>c</sup>	10.11±2.51	.17(.840)	8.69±2.83	2.48(.086)	12.69±3.01	.94(.392)
The form of f live	Lived apart from his family <sup>a</sup>	10.49±3.17		7.89±2.77		11.91±3.32	
	Boarding house <sup>b</sup>	8.25±3.40		7.25±2.62		11.50±2.38	
	Dormitory <sup>c</sup>	10.50±3.43		8.14±2.17		11.64±2.92	
	Family <sup>d</sup>	10.18±2.85	.73(.566)	8.16±2.49	.78(.538)	11.97±2.61	.50(.736)
Health condition	Very good <sup>a</sup>	12.31±4.77	a>c	6.68±2.57		10.12±3.64	a <d< td=""></d<>
	Good <sup>b</sup>	10.57±2.81		8.01±2.72		11.53±3.05	
	Average <sup>c</sup>	9.95±2.99		8.09±2.47		12.19±2.70	
	Bad <sup>d</sup>	10.18±2.37		8.36±2.64		13.09±3.18	
	Very bade	7.00±2.64	3.13(.016)	9.00±5.19	1.29(.275)	10.00±2.00	3.55(.008)

Table 5. Correlations among Major Variables

	Health pursuit r(p)	Convenience pursuit	Feeling pursuit	Eating habit
Convenience pursuit	17(.009)			
Feeling pursuit	04(.483)	.33(<.001)		
Eating habit	.48(<.001)	29(<.001)	10(.122)	
Self-efficacy	.21(.001)	26(<.001)	12(.062)	.29(<.001)

3rd and 4th grader had higher self-efficacy score than 2nd grade, female had higher score than male, and the group with very good health had higher score than those with average or bad health(Table 3)

4th grader had higher menu selection pursuing health score than 2nd grade, the group with very good health had higher score than those with average health, and as for the menu selection pursuing feeling score, the group with bad health had higher score than those with very good health(Table 4).

#### 3.4 Correlation among Eating Habit, Menu Selection (Pursuing Health, Pursuing Convenience, Pursuing Feeling) Behavior, and Self-Efficacy

Self-efficacy had significant positive correlation to eating(r=.29 p<.001), menu selection pursuing health(r=.21 p<.001). And Self-efficacy had significant negative correlation to menu selection convenience(r=-.26 p<.001) (Table 5).

#### 4. Conclusion

As per the results, the eating habit and menu selection behavior of nursing students was normal. The 3rd and 4th grade students had higher points, but it seemed they still need to be interested in healthy life and lack as a pre-nurse who need to conduct health education. The self-efficacy was above the standard, but they needed to improve more. The self-efficacy, eating habit and menu selection (health pursuing, convenience pursing) behavior had correlation. By conducting self-efficacy education, the students need to be the nurse with eating habit pursuing health.

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