

**NURSING STUDENT IMPACT OF CLINICAL PRACTICE SATISFACTION AND  
PROFESSOR-STUDENT INTERACTION ON ACADEMIC ACHIEVEMENT**

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**ABSTRACT**

The purpose of this study is a descriptive correlational study to identify factors that affect learning achievement among nursing students and determine the relationship between these variables. The subjects of the study were 155 fourth-year nursing students at Y University and D University located in Y City. The research results showed a significant positive correlation between academic achievement, clinical practice satisfaction ( $r=.591, p=.000$ ), and professor-student interaction ( $r=.520, p=.000$ ). Satisfaction and professor-student interaction ( $r=.467, P=.000$ ) showed a statistically significant difference with a significant positive correlation. Satisfaction with clinical practice ( $\beta=.446, p<.000$ ) and professor-student interaction ( $\beta=.312, p=.001$ ) were identified as influencing factors on academic achievement, and the total explanatory power was 41.8%. Based on the results of this study, nursing students' satisfaction with clinical practice and professor-student interaction are highly related to academic achievement, so efforts will be needed to provide a student-friendly clinical practice teaching environment that reflects students' learning needs.

**KEYWORD:** Clinical practice satisfaction, Professor-student interaction, academic achievement.**I. INTRODUCTION****1. Need for the Study**

Recently, with the rapidly changing medical environment and the improving expectations of health consumers, the demand for nursing personnel who provide optimal nursing care to a variety of patients is increasing in medical settings.<sup>[1]</sup> Nursing education is a learning process that develops the potential of nursing students and fosters their creativity by applying what they have learned in school to the nursing field through clinical practice.<sup>[2]</sup> Practical education is intended to narrow the gap between learned theory and clinical practice. It can be said to be the goal of. However, due to the increase in the number of nursing schools, there are far fewer practical training institutions compared to educational institutions, and there is also a shortage of quality clinical practice instructors.<sup>[6],[7]</sup> Nurses are overburdened with work, so they are actively providing practical training for students. There is no intervention.<sup>[8]</sup> In addition, as patients' rights have increased, nursing students have refused to accept nursing interventions<sup>[9]</sup>, so clinical practice for nursing students has mainly relied on observation.<sup>[10]</sup>

In actual clinical environments, many students complained of difficulties in applying theoretical knowledge to field practice and difficulties in

relationships with medical staff, patients, and various hospital personnel, which became a factor in increasing clinical practice stress<sup>[11]</sup>, and continued. Clinical practice stress causes a decrease in clinical practice satisfaction.<sup>[12]</sup>

**II. OBJECTIVE OF STUDY**

The purpose of this study is to determine nursing students' satisfaction with clinical practice and the impact of professor-student interaction on academic achievement.

The specific goals accordingly are as follows.

First, determine the level of nursing students' satisfaction with clinical practice, professor-student interaction, and academic achievement.

Second, we analyze clinical practice satisfaction, professor-student interaction, and academic achievement according to the general characteristics of nursing students.

Third, determine the correlation between nursing students' satisfaction with clinical practice, professor-student interaction, and academic achievement.

Fourth, identify factors influencing the academic achievement of nursing students.

### III. MATERIALS AND METHODS

#### 1. Research design

This study is a descriptive research study to determine the impact on nursing students' satisfaction with clinical practice, professor-student interaction, and academic achievement.

#### 2. Research subjects

The subjects of this study were 155 fourth-year nursing students at Y University and D University located in Y City. They were fourth-year students who understood the purpose of this study and agreed to participate in the study. Grades that did not experience clinical practice education were excluded from the study.

Sample size was calculated using G\*Power 3.1.9.4. When calculated based on multiple regression analysis with a significance level of 0.05, power of 0.9, effect size of 0.15, and 12 predictor variables, the minimum sample size was 140 people. Considering a dropout rate of 20%, a total of 168 surveys were conducted. Of the total surveys, 13 surveys (9 from University Y and 4 from University D) that answered insincerely were excluded, and a total of 155 from 69 from University Y and 86 from University of D were analyzed.

#### 3. Ethical consideration of research subjects

In this study, research subjects were informed of the purpose of the study before data collection, that the anonymity of the survey was guaranteed, that they could withdraw at any time if they did not wish to do so, and that there would be no disadvantages due to withdrawal. To participate in the study, written consent forms and questionnaires were distributed to subjects who voluntarily agreed to participate, and it was explained that the survey would take 20 minutes. After the survey, a drink coupon was provided in return.

#### 4. Research tools

##### 1) Satisfaction with clinical practice

Satisfaction with clinical practice is a tool developed by Jo and Kang [ ] and revised and supplemented by Soon-hee Lee et al. (2004). It consists of practice content (9 questions), practice guidance (9 questions), practice environment (7 questions), and practice. It consists of a total of 31 questions, including time (3 questions) and practice evaluation (3 questions).

Each question is composed of a 5-point Likert scale, with 5 being 'very much' and 1 being 'not at all'. A higher score means higher satisfaction with clinical practice. In the study by Sunhee Lee et al. (2004) and Kim and Ha<sup>[22]</sup>, Cronbach's  $\alpha = .87$ , and in this study, it was .91.

##### 2) Professor-student interaction

Professor-student interaction tools include Endo and Harpel (1982), Anaya and Cole (2001), and Cokley et al.

(2004), a tool developed by Choi Ji-hye (2016) based on previous research, and the teacher-student interaction consisted of a total of 13 questions consisting of three factors: academic, personal, and general interaction.

Each item is composed of a 5-point Likert scale, with 5 being 'very much' and 1 being 'not at all'. A higher score means higher professor-student interaction. In the study by Choi<sup>[22]</sup>, Cronbach's  $\alpha = .90$ , and in this study, it was .90, which was the same.

##### 3) Academic achievement

The academic achievement tool is the self-report cognitive learning scale (Cognitive, Affective, and Psychomotor Perceived Learning Scale) developed by Rovai et al.<sup>[18]</sup> to measure the degree of academic achievement in cognitive, affective, and psychomotor areas for college students. CAP), a tool modified by Kim Ju-yeon et al.<sup>[18]</sup>, was used. The tool consists of a total of 9 questions, on a 5-point Likert scale, and the response categories and points are assigned from 1 point for 'never' to 5 points for 'always,' and the total score is the sum of the scores for each question. The higher the score, the higher the academic achievement. In the study by Jooyeon Kim et al.<sup>[18]</sup>, Cronbach's  $\alpha = .73$ , and in this study, it was .72.

Kim, Juyeoun, Kim Hyeon Ok orcid, Lee Myung Ha (2019)

Impact of academic self-efficacy on academic achievement of nursing students: Mediating effect of major satisfaction

Academic Achievement of Nursing College Students according to Academic Self-efficacy: The Mediating Effect of Major Satisfaction.

##### 5. Data analysis method

The collected data were analyzed at a significance level of .05 using the IBM SPSS 21.0 program. The main analysis methods are as follows.

Frequency and descriptive statistical analyzes were conducted to determine the general characteristics, satisfaction with clinical practice, professor-student interaction, and academic achievement of the study subjects. Differences in clinical practice satisfaction, professor-student interaction, and academic achievement according to general characteristics were analyzed using t-test and ANOVA, and Scheffé test was performed as a post-hoc test. Pearson correlation analysis was performed to determine the correlation between study variables. A stepwise regression analysis (stepwise method) was performed to determine the impact on the study subjects' academic achievement. To verify the consistency between survey questions, an internal consistency reliability analysis of the measurement tool was conducted using Cronbach's alpha coefficient value.

#### IV. RESULTS

##### 1. General characteristics of the subject

Most of the subjects were female students (86.6%), and the majority of subjects were in their 20s or older at 142 (69.3%). The most common religion was non-religious at 100 people (64.5%), followed by Buddhism at 23 people (14.8%), and Christianity at 22 people (14.2%). The residence status of the subjects was 72 (46.5%) living with family, which was more than 50 (32.3%) living alone or 22 (14.3%) living in a dormitory, and 10 (6.3%) were in poor health, with most of them in good health. It was on my side. The motivation for entering nursing school was employment rate (57 people (36.8%)); Aptitude and hobby were 46 people (29.7%). 136 people (87.8%) said that their satisfaction with their major was above average, and 102 people (65.8%) said that they maintained good relationships

with colleagues during practicum. The most difficult interpersonal relationships during practice were with clinical nurses for 60 people (38.7%) and with patients and guardians for 39 people (25.2%). Among the practicum subjects, the subjects with which they were most satisfied were mental practicum, 48 students (31.0%), and adult practicum, 45 students (29.0%). As for whether or not students had taken theory classes related to the practice ward before going on the temporary training, 76 students (49.0%) had partially taken the course and 75 students (48.4%) had taken the course. During training, the main clinical practice leaders were 47 professors (30.3%) in charge of practical training, 41 nurses in charge of field education (26.5%), 25 bestial nurses (16.1%), 22 preceptor nurses (14.2%), and clinical staff. This was followed by 20 professors (12.9%) (Table 1).

**Table 1: General characteristics.**

(n=155)

Variables	Categories	n(%)
Gender	Male	134(86.5)
	Female	21(13.5)
Age	20-29	22(14.2)
	30-39	9(5.8)
	40-49	23(14.8)
	50<	1(0.6)
Religion	Christianity	22(14.2)
	Catholic	9(5.8)
	Buddhism	23(14.8)
	None	100(64.5)
	Etc	1(0.6)
health Condition	Very good	45(29.0)
	Good	66(42.6)
	Commonly	33(21.3)
	Not good	10(6.5)
	Very not good	1(0.6)
Housing Type	With family	72(46.5)
	With relatives	9(5.8)
	Trace	50(32.3)
	Dormitory	22(14.3)
	Etc	2(1.3)
Motivation for Admission To Nursing School	According to grades	13(8.4)
	Aptitude	46(29.7)
	Recommendation from others (parents, teachers, etc.)	29(18.7)
	Employment rate	57(36.8)
	Desire to serve	10(6.5)
Major Satisfaction	Very good	30(19.4)
	Satisfaction	57(36.8)
	Commonly	49(31.6)
	Dissatisfaction	16(10.6)
	Very unsatisfied	3(1.9)
Relationships with Practice Colleagues	Very good	34(43.9)
	Good side	68(43.9)
	Commonly	37(23.9)
	Not good	14(9.0)
	Very bad	2(1.3)
Interpersonal	Clinical nurse	68(38.7)

Relationships that Were Difficult During Practice	Patients and Guardians	39(25.2)
	Practice colleague	21(13.5)
	Clinical practice instructor	22(14.2)
	Other medical personnel	13(8.4)
Practice Satisfaction Subjects	adult practice	45(29.0)
	women's training	14(9.0)
	mental practice	48(31.0)
	children's training	18(11.6)
	local practice	30(19.4)
Take Theory Classes Before Practice	Taken course	75(48.4)
	Before taking the course	4(2.6)
	Partially enrolled	76(49.0)
Clinical Practice Instructor	head nurse	25(16.1)
	preceptor nurse	22(14.2)
	Nurse in charge of education for each ward	41(26.5)
	clinical professor	20(12.9)
	Professor in charge of practice	47(30.3)

## 2. Subject's satisfaction with clinical practice, professor-student interaction, academic achievement

Table 2 shows the subjects' satisfaction with clinical practice, professor-student interaction, and academic achievement. The average clinical practice satisfaction was  $3.42 \pm .52$ , the average professor-student interaction was  $2.87 \pm .76$ , and the average academic achievement was  $3.25 \pm .55$ .

**Table 2: Mean of Reserch Variable for the Subjects.**

(N=155)

Variables	M±SD	Min~Max
Clinical practice satisfaction	3.40±.52	2.12~3.95
Professor-student interaction	2.87±.76	2.46~3.16
academic achievement	3.25±.55	2.58~3.44

## 3. Satisfaction with clinical practice, professor-student interaction, and academic achievement according to the subject's general characteristics

Table 2 shows the results of examining the correlation between clinical practice satisfaction, professor-student interaction, and academic achievement according to the general characteristics of the subjects.

Satisfaction with clinical practice was determined by gender ( $t=4.48$ ,  $p=.036$ ), health status ( $F=7.56$ ,  $p=.000$ ), motivation for entering nursing school ( $F=7.09$ ,  $p=.000$ ), and satisfaction with major ( $F=7.09$ ,  $p=.000$ ). 9.72,  $p=.000$ ), relationship with practicum colleagues ( $F=6.58$ ,  $p=.000$ ), taking theory classes before practicum ( $F=9.03$ ,  $p=.000$ ), (professor-student interaction ( $t=4.85$ ,  $p=.036$ ), (Table 3).

**Table 3: Correlation Between Clinical Practice Satisfaction, Professor-Student Interaction, And Academic Achievement According To The General Characteristics Of The Subjects.**

(N=155)

Variable	Classification	Self-Esteem			Problem-Solving Ability			Career Identity			Nursing Professionalism		
		Mean ±SD	t/F	p (Scheffé)	Mean ±SD	t/F	p (Scheffé)	Mean ±SD	t/F	p (Scheffé)	Mean ±SD	t/F	p (Scheffé)
Sex	Male	2.23±0.72	1.29	.259	3.55±0.55	1.60	.010	2.86±0.52	1.23	.410	2.14±0.61	-1.06	.568
	Female	2.40±0.63			3.40±0.40			2.73±0.46			2.27±0.54		
Age (years)	21~24	2.34±0.66	.75	0.390	3.41±0.43	.31	.582	2.74±0.47	.51	.479	2.22±0.53	.96	.329
	More than 25	2.46±0.62			3.47±0.45			2.81±0.49			2.34±0.65		
religion	Christian	2.30±0.62	1.03	.393	3.47±0.47	.27	.886	2.81±0.47	.47	.759	2.31±0.65	.93	.447
	Catholic	2.70±0.66			3.40±0.55			2.57±0.35			2.46±0.62		
	Buddhism	2.40±0.60			3.42±0.43			2.77±0.50			2.15±0.59		
	Doesn't Exist	2.31±0.67			3.41±0.43			2.76±0.49			2.24±0.50		
	Etc	2.80			3.84±.			2.78±.			2.76		
Motivation for applying to the Department of Nursing	Employment Rate	2.36±0.64	5.24	.000	3.43±0.43	2.22	.056	2.75±0.45	5.46	.000	2.26±0.55	3.77	.003
	According to Grades	2.80±0.45			3.26±0.45			2.45±0.43			2.55±0.42		
	Solicitation from Others	2.76±0.70			3.25±0.22			2.55±0.37			2.63±0.45		
	family hope	2.44±0.62			3.36±0.34			2.62±0.29			2.13±0.43		
	Interest or aptitude	1.93±0.56			3.64±0.48			3.10±0.48			1.94±0.59		
	Etc	2.30			3.14±.			2.64±.			2.20		
Satisfaction with college life	Satisfied a	2.32±0.65	10.33	.000	3.54±0.47	5.70	.004	2.92±0.48	9.11	.000	2.57±0.50	7.68	.001
	Usuallyb	2.62±0.54		b>a	3.29±0.36		a>b	2.59±0.43		a>b	2.41±0.48		b>a
	Dissatisfaction c	2.13±0.66			3.39±0.47			2.55±0.13			2.07±0.56		
Major Satisfaction at Admission	Satisfied a	2.72±0.74	3.13	.047	3.53±0.49	5.54	.005	2.90±0.50	9.07	.000	2.41±0.39	3.31	.040
	Usuallyb	2.48±0.57			3.29±0.31		a>b	2.61±0.38		a>c,b	2.37±0.48		b>a
	Dissatisfaction c	2.24±0.68			3.40±0.55			2.35±0.47			2.13±0.60		
Major Satisfaction	Satisfied a	2.70±0.81	5.99	.003	3.49±0.49	2.39	.096	2.96±0.47	18.75	.000	2.50±0.65	9.32	.000
	Usuallyb	2.54±0.57		b>a	3.33±0.34			2.57±0.36		a>c,b	2.44±0.44		b>a
	Dissatisfaction c	2.18±0.65			3.48±0.55			2.19±0.43			2.06±0.57		
academic achievement	Topa	2.77±0.44	4.01	.011	3.62±0.47	5.44	.005	2.96±0.46	7.39	.001	2.47±0.64	3.12	.047
	Middleb	2.40±0.62		a>c	3.35±0.41		b>a	2.71±0.46		a>c,b	2.29±0.53		
	Bottomc	2.14±0.69			3.31±0.31			2.40±0.39			2.07±0.54		
Desired Career	General hospital	2.38±0.64	0.87	.456	3.41±0.43	2.01	.116	2.77±0.47	1.00	.394	2.24±0.53	.67	.570
	Public official	2.44±0.73			3.56±0.45			2.62±0.51			2.22±0.56		
	Health teacher	2.17±0.50			3.19±0.314			2.76±0.37			2.44±0.63		
	Overseas employment	2.04±0.65			3.59±0.50			2.98±0.58			2.05±0.88		

#### 4. Correlation between the subject's academic achievement, clinical practice satisfaction, and professor-student interaction

Table 4 shows the results of examining the correlation between subjects' satisfaction with clinical practice, professor-student interaction, and academic achievement.

A significant positive correlation was found between academic achievement, clinical practice satisfaction ( $r=.591$ ,  $p=.000$ ), and professor-student interaction ( $r=.520$ ,  $p=.000$ ), and clinical practice satisfaction and professor-student interaction ( $r=.467$ ,  $P=.000$ ) showed a significant positive correlation (Table 4).

**Table 4: Correlation between subjects' academic achievement, satisfaction with clinical practice, and professor-student interaction (N=155).**

Variables	Academic Achievement	Clinical Practice Satisfaction	Professor-Student Interaction
	R (p)	R (p)	R (P)
academic achievement	1		
Clinical practice satisfaction	.591(.000)	1	
Professor-student interaction	.520(.000)	.467(.000)	1
□ □			

#### 5. Factors affecting the subject's academic achievement

Table 5 shows the results of multiple regression analysis by applying regression analysis to identify factors affecting the academic achievement of nursing students.

In order to identify factors influencing the subject's academic achievement, clinical practice satisfaction showed a significant correlation with academic achievement, health status showing significant differences in professor-student interaction and general characteristics, motivation for entering the nursing department, major satisfaction, and practical training. Relationships with colleagues, practice satisfaction subjects, taking theory classes before practice, and clinical practice instructor were converted into dummy variables and regression analysis was performed.

Before performing regression analysis, the autocorrelation of errors was tested using the Durbin-Watson index, and independence was satisfied at 1.89. As a result of testing multicollinearity using tolerance and variance inflation factor (VIF) values, the tolerance limit was less than 0.1 or the VIF was greater than 10, so there was no problem with multicollinearity, so regression analysis was performed. It was suitable for the following. As a result of regression analysis, the model was appropriate ( $F=69.233$ ,  $p=.000$ ), and the explanatory power was found to be 41.8%. Factors affecting the subject's academic achievement include health status ( $t=2.859$ ,  $p=.000$ ), motivation to enter nursing school ( $t=3.149$ ,  $p=.000$ ), and major satisfaction ( $t=3.621$ ,  $p=.000$ ), relationship with practicum colleagues ( $t=3.141$ ,  $p=.000$ ), clinical practicum instructor ( $t=6.013$ ,  $p=.000$ ), clinical practicum satisfaction ( $t=6.41$ ,  $p=.000$ ), professor-student interaction ( $t=4.48$ ,  $p=.000$ ) (Table 5).

**Table 5: Factors affecting the subject's academic achievement.**

Variables	B	SE	$\beta$	t	p
health condition	.023	.008	.192	2.859	.000
Motivation for admission to nursing department	.293	.094	.226	3.149	.000
Major satisfaction	.0164	.045	.265	3.621	.000
Relationships with practice colleagues	.168	.054	.232	3.141	.000
Take theory classes before practice	.188	.145	.065	1.295	.196
Clinical practice instructor	.443	.074	.300	6.013	.000
Clinical practice satisfaction	.473	.074	.446	6.41	.000
Professor-student interaction	.227	.051	.312	4.48	.000
Adj $R^2=.418$ , $F=69.233$ $p=.000$					

#### V. DISCUSSION

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