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The Relationships Among Nursing Students' Self-Leadership, Emotional Intelligence, Nursing Professionalism, and Academic Satisfaction, Academic Achievement

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Abstract

The purpose of this study is a descriptive survey research to identify relationship among nursing students' self-leadership, emotional intelligence, nursing professionalism, and academic satisfaction, academic achievement. Research design of this study is a cross-sectional survey conducted with 280 nursing students from E University, selected through convenience sampling. Multiple linear regression analysis was used as the statistical method for analysis. As a result, emotional intelligence ($B=0.294$, $p<.001$) and nursing professionalism ($B=0.427$, $p<.001$) had a positive effect on academic satisfaction. After adjusting control variables, emotional intelligence ($B=0.294$, $p<.001$) and nursing professionalism ($B=0.427$, $p<.001$) had a positive effect on academic satisfaction. Major conclusion of the study is to enhance nursing students' academic satisfaction and academic achievement, it is necessary to improve their self-leadership, emotional intelligence, and nursing professionalism through curricular and extracurricular academic programs.

Keywords : Self-Leadership, Emotional Intelligence, Nursing Professionalism, Academic Satisfaction, Academic Achievement

JEL Classification Code : I10, I19

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1. Introduction

1.1. Background of the Study

Nursing students face considerable difficulties and stress due to the heavy burden of major-specific courses, intensive academic load, approximately 1,000 hours of clinical practice, and the pressure to pass the national nursing licensure examination (Jang, 2020). Previous studies have reported that academic issues are the most significant stressor for nursing students (Jang, 2020). Under these burdens it is crucial to identify factors related to academic satisfaction and achievement among nursing students and develop strategies to enhance them.

Nursing students are exposed to clinical practice and nursing work fields at an early stage, making it important for them to develop self-leadership skills, such as setting personal goals and striving to achieve them. Additionally, during clinical practice, they interact with patients who are suffering from illness and pain, as well as nurses who are stressed by a heavy workload. In these situations, nursing students need the ability to communicate effectively with both patients and nurses and to build interpersonal relationships. This ability is influenced by emotional intelligence (Wong & Law, 2002). According to a study by Ko (2017), nursing students with higher emotional intelligence experience less anxiety, role conflict, fatigue, and frustration during their academic process. Through core nursing skills training and clinical practice, nursing students form a structured view of nursing and develop a sense of professionalism toward the nursing profession. A well-established nursing professionalism can increase nursing students' interest in their major courses (Yeun et al., 2005).

When entering university, many students choose their major department not based on their aptitude or interests, but due to factors such as employment prospects. Similarly, nursing students may have selected their major not based on personal interest or aptitude, but rather because of advantages such as job stability, income, and rapid employment opportunities. Previous research has shown that nursing students' academic satisfaction and achievement in their major differ according to factors such as the motivation for choosing the nursing major, academic year, and gender (Song et al., 2023).

Although several studies have reported that academic satisfaction and achievement in nursing students, who face unique pressures from nursing major courses and clinical practice, are related to factors such as self-leadership, emotional intelligence, nursing professionalism, and motivation for choosing the nursing major, but there are few studies that have considered these factors in an integrated manner. Therefore, this study aims to examine the relationships among nursing students' self-leadership,

emotional intelligence, nursing professionalism, and academic satisfaction, academic achievement.

2. Research Purpose

This study aims to examine the levels of self-leadership, emotional intelligence, nursing professionalism, academic satisfaction, and academic achievement among nursing students, as well as the relationships between these factors.

3. Research Methods and Materials

3.1. Collection of Research Subjects and Data

This study is a cross-sectional descriptive survey research aimed at examining the relationships between self-leadership, emotional intelligence, nursing professionalism and academic satisfaction, academic achievement in nursing students.

3.2. Research Subject

The subject of this study was 280 from freshmen to senior nursing students attending the Department of Nursing at E-University in Gyeonggi-do, and they voluntarily agreed to participate the study after hearing an explanation of the study. The G*power 3.1.9.7 program was used to calculate the number of survey subjects, and as a result of calculation with an effect size of 0.15, significance level of 0.05 and power 0.95 for multiple linear regression, the minimally required students was 213. Considering the nonresponse dropout rate of 10%, the sample size was 235. 290 questionnaire were distributed and collected 280 data were analyzed, after excluding 10 of the 290 that had no response or incomplete response.

3.3. Research Tools

3.3.1. General Characteristics

Academic year, gender, motivation for choosing the major, and satisfaction with interpersonal relationships were included as general characteristic variables.

3.3.2. Self-Leadership

To measure self-leadership, a tool developed by Houghton and Neck (2002) and adapted by Shin (2009) was used. This tool consists of a total of 35 items, including 18 items for behavior-focused strategies, 5 items for natural reward strategies, and 12 items for constructive thought

pattern strategies. It is rated on a 5-point Likert scale, ranging from 1 ("Not at all true") to 5 ("Very true"). In the study by Shin (2009), the tool had a Cronbach's α of .94, while in the study by Kim (2024), it was .93. In this study, the Cronbach's α was .91.

3.3.3. Emotional Intelligence

Emotional intelligence was measured using a tool developed by Wong and Law (2002) and adapted by Jung and Kim (2007). This tool consists of 16 items: 4 items on self-emotional appraisal, 4 items on others' emotional appraisal, 4 items on regulation of emotion, and 4 items on use of emotion. It is measured on a 7-point Likert scale, with higher scores indicating higher emotional intelligence. During the development of the tool by Wong and Law (2002), the Cronbach's α ranged from .83 to .90. When applied to nursing students in the study by Park (2018), Cronbach's α was .89, and in this study, Cronbach's α was .88.

3.3.4. Nursing Professionalism

Nursing professionalism was measured using an 18-item tool developed by Han et al. (2008), which was adapted from the original 29-item tool developed by Yoon et al. (2005). In the study by Han et al. (2008), the tool demonstrated a Cronbach's α of .91, while in this study, Cronbach's α was .78.

3.3.5. Academic Satisfaction

Academic satisfaction was measured using a tool developed by Keller (1987) and later modified and refined by Jung (2005). In the study by Jung (2005), the tool demonstrated a Cronbach's α of .75, while in this study, Cronbach's α was .89.

3.3.6. Academic Achievement

Academic achievement was measured using a 10-item tool developed by Rovai et al. (2009) and adapted by Park et al. (2010). In the study by Kim (2024), which measured academic achievement using this tool, Cronbach's α was .86, while in this study, Cronbach's α was .84.

3.4. Data Collection

Survey data collection was conducted from April 16 2024 to June 7. Data was collected for each grade, before the survey obtaining written voluntary consent to participation of this study for ethical consideration.

3.5 Data Analysis

The general characteristics of the participants were analyzed using descriptive statistics. Differences in academic satisfaction and academic achievement according to general characteristics were examined using t-tests and F-tests (ANOVA), with post hoc analysis conducted using the Duncan test. The data were analyzed using the SPSS 29.0 WIN program

Pearson correlation coefficients were calculated to examine the relationships among self-leadership, emotional intelligence, nursing professionalism, academic satisfaction, and academic achievement. Multiple linear regression analysis was then conducted to examine the relationships between self-leadership, emotional intelligence, nursing professionalism, and academic satisfaction and achievement after controlling for general characteristics. A reliability of the instruments was tested using Cronbach's α values, and the statistical significance was set at 0.05.

4. Results

4.1. General Characteristics

The general characteristics of the 280 study participants, including class, gender, reason for choosing a major, and interpersonal relationship satisfaction are presented in <Table 1>.

Table 1: General Characteristics of the Participants

Variable		N	%
Class	1st	63	22.5
	2nd	59	21.1
	3rd	76	27.1
	4th	82	29.3
Gender	Male	42	15.0
	Female	238	85.0
Reason for choosing a major	Aptitude or interest	111	39.6
	High employment rate	105	37.5
	Valuable profession	28	10.0
	fit with academic performance	22	7.9
	parents' recommendation	14	5.0
Interpersonal Relationship	Dissatisfaction	10	3.6
	Moderate	45	16.1
	Satisfaction	225	80.4

(n=280)

4.2. Level of Self-leadership, Emotional Intelligence, Nursing Professionalism, Academic Satisfaction, Academic Achievement

The range, mean, standard deviation, skewness, and kurtosis of self-leadership, emotional intelligence, nursing professionalism, academic satisfaction, and academic achievement among study participants are presented in <Table 2>.

Table 2: Level of Self-leadership, emotional intelligence, nursing professionalism, academic satisfaction, academic achievement

	Min-Max	M±SD	Skewness (Z)	Kurtosis (Z)	
Self-leadership	1.97~5.00	3.63±0.47	-.402	.146	.290
Emotional Intelligence	2.00~5.00	3.71±0.52	-.305	.146	.290
Nursing Professionalism	2.39~4.83	3.60±0.36	.225	.146	.290
Academic Satisfaction	1.80~5.00	3.69±0.64	-.109	.146	.290
Academic Achievement	1.00~5.00	3.50±0.57	-.233	.146	.290

(N=280)

4.3. Differences in academic satisfaction, and academic achievement

Academic satisfaction varied significantly based on the reason for choosing a major ($F=3.93, p=.004$). Post-hoc analysis revealed that the groups who chose their major due to aptitude alignment, high employment rates, or academic performance had significantly higher academic satisfaction compared to the group influenced by parental recommendation. Academic satisfaction also differed significantly depending on the level of satisfaction with interpersonal relationships ($F=8.51, p<.001$). Post-hoc analysis indicated that the group that was "satisfied" with their interpersonal relationships had significantly higher academic satisfaction than the group that was "neutral."

Academic achievement also showed significant differences based on the motivation for choosing a major ($F=3.78, p=.005$). Post-hoc analysis revealed that the group that chose their major in alignment with their aptitude had significantly higher academic achievement compared to the group influenced by parental recommendation. Additionally, academic achievement differed significantly depending on the level of satisfaction with interpersonal relationships ($F=10.75, p<.001$). Post-hoc analysis showed that the group "satisfied" with their interpersonal relationships had significantly higher academic achievement than the group that was "neutral."

Table 3: Academic satisfaction and academic achievement score according to general characteristics

Distinction		N	Academic Satisfaction			Academic Achievement		
			M±SD	t/F	p	M±SD	t/F	p
Class	1 st	63	3.76±0.61	1.96	.12	3.39±0.49	1.79	.149
	2nd	59	3.73±0.54			3.56±0.53		
	3rd	76	3.54±0.64			3.45±0.57		
	4th	82	3.75±0.70			3.59±0.63		
Gender	Male	42	3.76±0.61	0.8	.424	3.47±0.70	-0.44	.66
	Female	238	3.68±0.64			3.51±0.54		
Reason for choosing a major	aptitude ^a	111	3.85±0.59	3.93	.004 (a,b,d>e)	3.66±0.46	3.78	.005 (a>e)
	high employment rate ^b	105	3.63±0.64			3.40±0.60		
	valuable profession ^c	28	3.55±0.41			3.44±0.57		
	fit with academic performance ^d	22	3.64±0.71			3.40±0.60		
	parents' recommendation ^e	14	3.28±0.94			3.29±0.78		

Interpersonal relationship	Dissatisfied ^a	10	3.66±0.37	8.51	<.001 (c>b)	3.28±0.90	10.75	<.001 (c>b)
	Neutral ^b	45	3.34±0.56			3.18±0.58		
	Satisfied ^c	225	3.76±0.64			3.58±0.52		

(n=280)

4.4. Relationships among self-leadership, emotional intelligence, nursing professionalism, academic satisfaction, and academic achievement

The Pearson correlation analysis conducted to examine the relationships among self-leadership, emotional intelligence, nursing professionalism, academic satisfaction, and academic achievement revealed significant positive correlations among these variables.

The Pearson correlation analysis conducted to examine the relationships among self-leadership, emotional intelligence, nursing professionalism, academic satisfaction, and academic achievement revealed that all variables were significantly and positively correlated with one another.

Table 4: Pearson correlation among self-leadership, emotional intelligence, nursing professionalism, academic satisfaction, and academic achievement

Distinction	Self-leadership r(p)	Emotional intelligence r(p)	Nursing professionalism r(p)	Academic satisfaction r(p)
Self-leadership	-			
Emotional intelligence	.462 (<.001)	-		
Nursing professionalism	.320 (<.001)	.350 (<.001)	-	
Academic satisfaction	.346 (<.001)	.420 (<.001)	.380 (<.001)	-
Academic achievement	.532 (<.001)	.360 (<.001)	.324 (<.001)	.511 (<.001)

(N=280)

4.5. Relationships between participants' general characteristics, self-leadership, emotional intelligence, nursing professionalism, and academic satisfaction

To examine the relationships between participants' general characteristics, self-leadership, emotional intelligence, nursing professionalism, and academic satisfaction, multiple linear regression analysis was conducted. The linear regression model was statistically significant (F=9.488, p<.001) and explained 28.3% of the variance in academic satisfaction (Adj. R²=0.283). The variance inflation factor (VIF) values for multicollinearity diagnostics ranged from 1.051 to 1.729, all below the academic satisfaction (B=-0.243, p=.036) compared to those who chose it because it aligned with their aptitude.

4.6. Multiple regression analysis on the effects of self-leadership, emotional intelligence, and nursing professionalism on academic achievement

The results of the multiple linear regression analysis conducted to examine the effects of self-leadership, emotional intelligence, and nursing professionalism on academic achievement are presented in <Table 5>. The regression model used to identify factors influencing academic achievement was statistically significant (F=11.769, p<.001), explaining 33.4% of the variance (Adj. R²=0.334). Multicollinearity diagnostics showed variance inflation factor (VIF) values ranging from 1.051 to 1.729, all below the threshold of 10, and tolerance values between 0.205 and 0.952, confirming they were above 0.1.

threshold of 10, and tolerance values ranged from 0.205 to 0.952, confirming they were above 0.1.

Among the independent variables, emotional intelligence (B=0.294, p<.001) and nursing professionalism (B=0.427, p<.001) had a positive effect on academic satisfaction. Among the control variables, third-year students had academic satisfaction levels 0.289 points lower than first-year students, and students who chose nursing as a valuable profession reported lower

The variables positively influencing academic achievement were self-leadership (B=0.489, p<.001) and nursing professionalism (B=0.238, p=.006). Among the control variables, students who chose nursing due to high employment rates had academic achievement levels 0.128 points lower than those who chose it because it matched their aptitude (B=-0.128, p=.05).

Table 5: Multiple regression analysis on the effects of self-leadership, emotional intelligence, and nursing professionalism on academic satisfaction

Distinction		Unstandardized coefficient		Standardized coefficient	t	p	Collinearity		
		B	SE	β			Tolerance	VIF	
Control variable	(constant)		0.457	0.375		1.219	.224		
	Class	Male(=Ref.)	0.000						
		Female	0.095	0.079	0.060	1.196	.233	0.952	1.051
	Class	1st(=Ref.)	0.000						
		2nd	0.105	0.085	0.075	1.233	.219	0.637	1.569
		3rd	0.024	0.080	0.019	0.298	.766	0.605	1.653
		4th	0.077	0.080	0.062	0.963	.336	0.578	1.729
	Reason for choosing a major	aptitude (=Ref.)	0.000						
		high employment rate	-0.128	0.065	-0.109	-1.970	.050	0.781	1.280
		valuable profession	-0.125	0.099	-0.066	-1.261	.208	0.869	1.150
		fit with academic performance	-0.135	0.110	-0.064	-1.219	.224	0.866	1.155
		parents' recommendation	-0.115	0.134	-0.044	-0.857	.392	0.892	1.121
Interpersonal relationship	Dissatisfied (=Ref.)	0.000							
	Neutral	-0.096	0.166	-0.062	-0.578	.564	0.205	4.870	
	Satisfied	0.141	0.153	0.099	0.927	.355	0.208	4.806	
Independent variable	Self-leadership	0.489	0.070	0.401	7.006	.000	0.728	1.373	
	Emotional intelligence	0.069	0.064	0.063	1.075	.283	0.698	1.433	
	Nursing professionalism	0.238	0.085	0.152	2.789	.006	0.804	1.243	
R ² (0.365), Adj. R ² (0.334), F(11.769), p(<.001), Durbin-Watson(1.851) Ref.=reference									

Table 6: Multiple regression analysis on the effects of self-leadership, emotional intelligence, and nursing professionalism on academic achievement

Distinction		Unstandardized coefficient		Standardized coefficient	t	p	Collinearity		
		B	SE	β			Tolerance	VIF	
Control variable	(constant)		0.457	0.375		1.219	.224		
	Class	Male(=Ref.)	0.000						
		Female	0.095	0.079	0.060	1.196	.233	0.952	1.051
	Class	1st(=Ref.)	0.000						
		2nd	0.105	0.085	0.075	1.233	.219	0.637	1.569
		3rd	0.024	0.080	0.019	0.298	.766	0.605	1.653
		4th	0.077	0.080	0.062	0.963	.336	0.578	1.729
	Reason for choosing a major	aptitude (=Ref.)	0.000						
		high employment rate	-0.128	0.065	-0.109	-1.970	.050	0.781	1.280
		valuable profession	-0.125	0.099	-0.066	-1.261	.208	0.869	1.150
		fit with academic performance	-0.135	0.110	-0.064	-1.219	.224	0.866	1.155
		parents' recommendation	-0.115	0.134	-0.044	-0.857	.392	0.892	1.121
Interpersonal relationship	Dissatisfied (=Ref.)	0.000							
	Neutral	-0.096	0.166	-0.062	-0.578	.564	0.205	4.870	
	Satisfied	0.141	0.153	0.099	0.927	.355	0.208	4.806	
Independent variable	Self-leadership	0.489	0.070	0.401	7.006	.000	0.728	1.373	
	Emotional intelligence	0.069	0.064	0.063	1.075	.283	0.698	1.433	
	Nursing professionalism	0.238	0.085	0.152	2.789	.006	0.804	1.243	
R ² (0.365), Adj. R ² (0.334), F(11.769), p(<.001), Durbin-Watson(1.851) Ref.=reference									

4.7. Discussion

In this study, the self-leadership level of nursing students was 3.63 out of 5 on average. This is similar to the findings of Kim (2024), who reported a score of 3.72 for nursing students who experienced blended learning, and the study by Lim and Lee (2021), which reported a score of 3.64. The nursing students in this study demonstrated an ability to set and manage goals independently, exhibiting proactive behavior that enhances self-actualization rather than adopting a passive, externally controlled approach.

The emotional intelligence score was 3.71 out of 5 on average. Although slightly lower than the 3.77 reported in the study by Na (2023) on nursing students, it reflects a level of emotional intelligence above the midpoint, indicating a relatively high capacity for emotional understanding and regulation.

The nursing professionalism score averaged 3.60 out of 5, which is comparable to the scores reported by Choi (2022) at 3.62 and Yang (2019) at 3.63, both of which assessed graduating nursing students. Nursing professionalism is a multifaceted concept influenced by various factors, including the educational environment, quality of education, and personal experiences. As such, pinpointing the exact reasons for the slightly lower score compared to prior studies is challenging (Choi, 2022).

Academic satisfaction averaged 3.69 out of 5, which was slightly higher than the results reported by Kim (2021), who measured academic satisfaction among nursing students in an online learning environment. However, it was somewhat lower than the average of 4.46 reported for students who experienced offline learning in the study by Kang et al. (2020), which examined academic satisfaction among health science students who experienced both blended learning and offline learning.

Academic achievement averaged 3.50 out of 5, slightly higher than the 3.37 reported in the study by Joo and Han (2021), which measured academic achievement among nursing students. In the comparison of academic achievement by general characteristics, students in the "aligned with aptitude" group for major selection scored the highest. This aligns with the findings of Kim et al. (2012), which reported that students who chose nursing based on their aptitude or interests demonstrated higher academic achievement.

The correlation analysis of the study variables revealed statistically significant positive relationships among self-leadership, emotional intelligence, nursing professionalism, academic satisfaction, and academic achievement. This indicates that as self-leadership, emotional intelligence, and nursing professionalism increase, academic satisfaction and achievement also increase. This finding aligns with a

previous study on nursing students who experienced blended learning (Kim, 2024), which demonstrated a strong correlation between higher self-leadership and increased academic satisfaction and achievement. Furthermore, other studies have also identified self-leadership as a contributing factor to academic self-efficacy among nursing students (Choi & Lim, 2016).

A significant correlation was also found between academic satisfaction and academic achievement, consistent with the findings of Jung (2014). Multiple regression analyses on academic satisfaction and achievement showed that emotional intelligence and nursing professionalism had significant positive effects on academic satisfaction, while self-leadership and nursing professionalism positively influenced academic achievement.

These results underscore the importance of fostering self-leadership, emotional intelligence, and nursing professionalism through various curricular and extracurricular activities during nursing education. Additionally, providing information and support to help students recognize the need to develop these competencies is critical for their academic and professional growth.

5. Conclusions

This study is a descriptive survey aimed at identifying the levels of self-leadership, emotional intelligence, and nursing professionalism among nursing students, as well as examining their relationships with academic satisfaction and academic achievement. The study was conducted in May 2024, involving 290 nursing students from the first to fourth years enrolled at E University in Seongnam-si, Gyeonggi Province. Data from 280 participants were analyzed.

The findings confirmed that self-leadership, emotional intelligence, and nursing professionalism had statistically significant positive effects on academic satisfaction and academic achievement among nursing students. After controlling for gender, academic year, motivation for choosing the major, and satisfaction with interpersonal relationships, emotional intelligence and nursing professionalism were found to positively influence academic satisfaction, while academic achievement was influenced by self-leadership and nursing professionalism.

Based on these results, it is recommended to enhance students' academic satisfaction and achievement by fostering self-leadership, emotional intelligence, and nursing professionalism. This can be achieved through individualized goal setting, personalized counseling, and a variety of curricular and extracurricular programs that consider students' motivations for choosing their major.

This research is a cross-sectional study so limited in its

ability to establish causal relationships among self-leadership, emotional intelligence, nursing professionalism, academic satisfaction, and academic achievement.

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