

# Factors Affecting Nursing Professionalism among Nursing Under Graduate Students with Clinical Practice Experience

Gyung, Park

Department of Nursing, Sehan University. E-mail: gypark@sehan.ac.kr

## Abstract

Nursing professionalism of nurses is to make decisions and perform tasks efficiently as professional nurses to solve problems in clinical settings. The nursing professionalism of nursing undergraduate students formed in theoretical and practical curriculums leads to the nursing professionalism of clinical nurses. To improve it is major issue to nursing students' education curriculum. The study is a descriptive survey study to identify the critical thinking disposition, self-leadership, and nursing professionalism of nursing students who experienced clinical practice. The participants were nursing students from a local university in Korea. Data were collected by structured questionnaires and analyzed using descriptive statistics, t-test, ANOVA, Scheffe's test was used for post-hoc analysis, Pearson's correlation coefficients, and multiple regression with SPSS/WIN Statistics 22.0. According to the general characteristics, critical thinking disposition was revealed significant differences with respect to gender and personality. Self-leadership was found to present significant differences with respect to grade and religion. Nursing professionalism showed significant differences in grade, personality and thoughts on nursing profession. Nursing professionalism had a significant positive correlation with critical thinking disposition and self-leadership, and there was also a significant positive correlation between critical thinking disposition and self-leadership. As a result of analyzing the factors affecting nursing professionalism, critical thinking disposition and self-leadership had a significant effect on the nursing professionalism of nursing students. The regression model was statistically significant, and its explanatory power was 45.4%. The results revealed that nursing professionalism is related to critical thinking disposition and self-leadership and that they are the primary factors in forming nursing professionalism. So, It's necessary efforts to improve them.

**Keywords:** Nursing Undergraduate Students, Critical Thinking Disposition, Self-leadership, Nursing Professionalism.

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## INTRODUCTION

### 1.1. Background

The level of demand for medical services is getting higher and higher with the advancement of medical technologies and fast access to information due to Industry 4.0 and the development of science and technology [1], and nurses are placed in medical environments that require changes in professional and independent work performance [2]. Nurses need to be professional and manage problems based on an accurate understanding and judgment of various situations. Therefore, the Korea Accreditation Board of Nursing emphasizes the need to measure critical thinking disposition, leadership, and nursing professionalism as educational outcomes to prepare nursing students to become professional nurses [3].

As an outcome for measuring the quality of nursing education, critical thinking disposition is a cognitive process

used to effectively solve problems and make decisions as a product of thinking [4]. It is a significant concept for evidence-based clinical reasoning and judgment and is reported as an influencing factor that enables nurses to critically explore, objectify, solve problems creatively [5], and perform appropriate nursing in various clinical situations [6]. The Korea Accreditation Board of Nursing asks for continuous improvement of nursing programs to foster nurses with critical thinking skills, a core competency for nurses required in clinical practice [3]. Educators are also providing education to improve critical thinking disposition through curriculums to foster nurses with critical thinking skills in clinical situations [7] [8].

As clinical settings change to a patient-centric medical culture, interest in self-leadership, a new paradigm of leadership, is increasing to achieve the vision and goals of organizations [9]. Self-leadership is a comprehensive self-influence perspective that leads oneself with thoughts or any

strategy of action that exerts influence on oneself to achieve high performance [10]. It is a fundamental quality that is especially important for professional nurses who need to make responsible judgments and decisions and an essential personal characteristic for nurses who need to show leadership and respond promptly to various clinical situations. People with high self-leadership skills tend to be innovative and creative, so they can perform their work more innovatively and creatively [11][12].

Nursing students with high self-leadership have been reported to have an enhanced individual efficiency through self-management and intrinsic motivation by emphasizing autonomy, such as achieving goals and self-control [13]. Autonomous and flexible thinking cultivated through self-leadership enables us to cope with changing situations proactively [14], so self-leadership, a concept that emphasizes critical thinking and self-direction for self-management, is significant for nursing students who will become nurses in the future [15].

The Korea Accreditation Board of Nursing also emphasizes nursing professionalism as a key concept for measuring educational performance in accreditation evaluation to produce nurses with core competencies required in domestic and foreign health and medical fields [3]. Nursing professionalism is a systematic view of nursing, such as beliefs and ideas about nursing, the nursing process, and occupational consciousness [16]. If nurses have positive nursing professionalism, their job satisfaction is high and the turnover rate is low, forming a right attitude toward job performance and resulting in effective nursing performance [17].

Therefore, it is important to establish nursing professionalism to make decisions and perform tasks efficiently as professional nurses to solve problems in various clinical settings [18]. The nursing professionalism of nursing students formed in theoretical and practical curriculums leads to the nursing professionalism of clinical nurses [19]. So, there is a need to identify the environmental and personal factors that affect the nursing professionalism of students according to social changes [21] to develop the right values for nursing students who will become professional nurses in the future [3] through growing interest in nursing education curriculums for the formation of nursing professionalism [20].

According to previous studies, critical thinking disposition had a significant positive relationship with nursing professionalism and was a variable affecting nursing professionalism [3][22]. Self-leadership was also positively correlated with nursing professionalism and was a variable affecting nursing professionalism [3][21][23][24][25].

However, few study was attempted to confirm the relationship between these three variables and the factors affecting nursing professionalism. Therefore, this study aims to provide basic data for improving nursing curriculums by examining the relationship between critical thinking disposition and self-leadership as variables affecting nursing

students' nursing professionalism.

## 1.2. Purpose

The study aimed to investigate the critical thinking disposition, self-leadership, and nursing professionalism among nursing students who experienced clinical practice and identify factors affecting their nursing professionalism.

The specific objectives are:

- Understand the general characteristics, critical thinking disposition, self-leadership, and nursing professionalism of the participants.
- Identify differences in critical thinking disposition, self-leadership, and nursing professionalism according to the participants' general characteristics.
- Identify the relationship between critical thinking disposition, self-leadership, and nursing professionalism of the participants. Identify the factors that affect the nursing professionalism of the participants.

## METHOD

### 2.1 Design

The study was a descriptive study aimed to examine the critical thinking disposition, self-leadership, and nursing professionalism of nursing undergraduate students, in addition to confirming the correlations between such variables and uncovering factors that affect nursing professionalism.

### 2.2 Participants

The participants were nursing undergraduate students from a local university in Korea who understood the purpose of this study and agreed to participate. The minimal sample size was 178 people (based on an effect size =.15, significance level =.05, and power =.95 using G\*Power 3.1).

However, 200 copies were distributed, considering the dropout rate. The final analysis included data from 185 copies.

### 2.3 Research tools

#### 2.3.1 Critical thinking disposition

Critical thinking disposition was measured by a tool developed by Yoon [26]. It consists of 27 items in seven sub-scales: prudence (4), intellectual passion/inquisitiveness (5), self-confidence (4), systematicity (3), intellectual integrity (4), sound-skepticism (4), and objectivity (3). Each item is rated on a 5-point Likert scale from 1 for 'Strongly disagree' to 5 for 'Strongly agree.' Two negative items were reverse scored. The higher the score, the higher the critical thinking disposition.

The Cronbach's  $\alpha$  was .84 when developing the instrument, and Cronbach's  $\alpha$  was .85 in the study.

### 2.3.2 Self-leadership

Self-leadership was measured by the Revised Self-Leadership Questionnaire (RSLQ), which was developed by Hough and Neck [27], adapted by Shin et al. [28], and modified and supplemented by Kim [29]. It consists of 35 items including the sub-scales of behavior strategies: self-goal setting (5), self-reward (3), self-observation (4), self-cueing (2), and self-punishment (4); and the sub-scales of constructive thought pattern strategies: visualizing successful performance (5), self-talk (3), evaluating beliefs and assumptions (4), and focusing thoughts on natural rewards (5). On a 5-point Likert scale, from 1 for 'Strongly disagree' to 5 for 'Strongly agree,' the higher the score, the higher the self-leadership.

The Cronbach's  $\alpha$  was .84 when developing the tool, .93 in Kim [29], and .90 in this study.

### 2.3.3 Nursing professionalism

Nursing professionalism was measured by reducing the 29 items developed by Yeun et al. [30] to 18 items that Han et al. [17] tested construct validity through factor analysis. It consists of five sub-scales: professional self-concept (6), social awareness (5), professionalism in nursing (3), the roles of nursing (2), and originality of nursing (2). On a 5-point Likert scale, from 1 for 'Strongly disagree' to 5 for 'Strongly agree,' the higher the score, the higher the nursing professionalism. Negative items were reverse scored.

The Cronbach's  $\alpha$  was .91 in Han et al. [17] and Cronbach's  $\alpha$  was .87 in the study.

## 2. 4 Data collection and analysis

### 2.4.1 Data collection

Data were collected using structured questionnaires from June 7 to 18, 2021, for nursing undergraduate students from a local university in Korea who understood the purpose of this study and agreed to participate in the study. Although the number of subjects that is necessary to maintain .20 of the effect size, .05 of the significance level, and .85 of the power was calculated as 182 by the G \* Power 3.1, this study distributed 200 structured questionnaires considering the dropout rate. Fifteen of them were excluded due to unsatisfactory responses, and a total of 185 questionnaires were used for the final analysis.

Before answering the questionnaires, the researcher explained the purpose and contents of this study, guaranteed anonymity and informed that the collected data would only be used for research purposes and explained the right to withdraw from the study. It took about 15 to 20 minutes to fill out the questionnaires, and the final analysis included data from 185 copies.

### 2.4.2 Data analysis

The collected data were analyzed as follows using SPSS/WIN 22.0.

- The general characteristics of the participants were analyzed using descriptive statistics. Their critical thinking disposition, self-leadership, and nursing professionalism were calculated and described by mean and standard deviation values.
- The differences in critical thinking disposition, self-leadership, and nursing professionalism according to the participants' general characteristics were analyzed using t-test, ANOVA, and Schéffe's test.
- The correlation between the participants' critical thinking disposition, self-leadership, and nursing professionalism was analyzed using Pearson's Correlation Coefficients.
- Multiple regression was used to identify the factors affecting the participants' nursing professionalism.

## RESULTS

### 3.1 General characteristics

In terms of gender, there were 162 female (87.6%) and 23 male (12.4%) participants. There were 88 junior students (47.6%) and 97 senior students (52.4%), and 90 (48.6%) were religious and 95 (51.4%) were not. In terms of personality, 140 (75.7%) were optimistic and 45 (24.3%) pessimistic. As for their thoughts on nursing professionalism, 152 (82.2%) were optimistic and 33 (17.8%) pessimistic. In terms of application motivation, 112 (60.5%) answered employment guarantee, followed by 32 (17.3%) recommendation from parents or others, 24 (13.0%) aptitude, 11 (6.0%) according to high school records, and 6 (3.2%) service to others [Table 1].

[Table 1] General characteristics of participants (N=185)

Characteristics	Categories	n	%
Sex	Female	162	87.6
	Male	23	12.4
Grade	Junior	88	47.6
	Senior	97	52.4
Religion	Yes	90	48.6
	No	95	51.4
Personality	Optimistic	140	75.7
	Pessimistic	45	24.3
Thoughts on Nursing Profession	Optimistic	152	82.2
	Pessimistic	33	17.8
Application Motivation	Employment guarantee	112	60.5
	Aptitude	24	13.0
	High school records	11	6.0
	Recommendation from parents or others	32	17.3
	Service to others	6	3.2

### 3.2 Level of critical thinking disposition, self-leadership, and nursing professionalism of participants

The participants' critical thinking disposition was 3.60 ( $\pm 0.45$ ) out of 5 points, self-leadership averaged 3.46 ( $\pm 0.48$ ) out of 5, and nursing professionalism was 3.60 ( $\pm 0.50$ ) out of 5 points [Table 2].

[Table 2] Mean score of critical thinking disposition, self-leadership, and nursing professionalism (N=185)

Variables	Mean $\pm$ SD	Min	Max
Critical Thinking Disposition	3.60 $\pm$ 0.45	2.35	4.68
Self-Leadership	3.46 $\pm$ 0.48	2.04	4.96
Nursing Professionalism	3.60 $\pm$ 0.50	2.12	4.86

### 3.3 Differences in critical thinking disposition, self-leadership, and nursing professionalism according to the general characteristics of participants

In terms of general characteristics, there were significant differences in critical thinking disposition according to gender ( $t=-3.138, p=.001$ ) and personality ( $t=3.035, p=.031$ ). There were significant differences in self-leadership according to grade ( $t=4.235, p=.014$ ) and religion ( $t=1.962, p=.048$ ), and nursing professionalism showed significant differences according to grade ( $t=3.362, p=.035$ ), personality ( $t=6.124, p<.001$ ), and thoughts on nursing profession ( $t=5.852, p<.001$ ) [Table 3].

[Table 3] Differences in critical thinking disposition, self-leadership, and nursing professionalism according to the general characteristics of participants (N=185)

Characteristics	Categories	Critical Thinking Disposition			Self-Leadership			Nursing Professionalism		
		M $\pm$ SD	t or F (Scheffe)	p	M $\pm$ SD	t or F (Scheffe)	p	M $\pm$ SD	t or F (Scheffe)	p
Sex	Female	3.48 $\pm$ 0.424	-0.138	.001	3.47 $\pm$ 0.53	0.012	.994	3.70 $\pm$ 0.45	-0.351	.734
	Male	3.75 $\pm$ 0.43			3.49 $\pm$ 0.41			3.72 $\pm$ 0.47		
Grade	Junior	2.36 $\pm$ 0.38	2.153	.120	3.48 $\pm$ 0.45	4.235	.014	3.64 $\pm$ 0.46	3.362	.035
	Senior	2.35 $\pm$ 0.30			3.41 $\pm$ 0.52			3.62 $\pm$ 0.48		
Religion	Yes	3.55 $\pm$ 0.43	1.424	.146	3.55 $\pm$ 0.53	1.962	.048	3.68 $\pm$ 0.45	0.342	.632
	No	3.51 $\pm$ 0.45			3.42 $\pm$ 0.48			3.65 $\pm$ 0.44		
Personality	Optimistic	3.53 $\pm$ 0.44	3.035	.031	3.50 $\pm$ 0.48	0.543	.643	3.95 $\pm$ 0.47	6.124	<.001
	Pessimistic	3.47 $\pm$ 0.42			3.44 $\pm$ 0.53			3.24 $\pm$ 0.55		
Thoughts on Nursing Profession	Optimistic	3.52 $\pm$ 0.43	0.726	.437	3.53 $\pm$ 0.47	1.782	.075	3.77 $\pm$ 0.43	5.852	<.001
	Pessimistic	3.48 $\pm$ 0.50			3.38 $\pm$ 0.55			3.41 $\pm$ 0.44		
Application Motivation	Employment guarantee <sup>a</sup>	3.45 $\pm$ 0.44	1.975	.086	3.50 $\pm$ 0.48	0.732	.564	3.66 $\pm$ 0.47	1.634	.162
	Aptitude <sup>b</sup>	3.65 $\pm$ 0.45			3.54 $\pm$ 0.55			3.72 $\pm$ 0.44		
	High school records <sup>c</sup>	3.54 $\pm$ 0.50			3.55 $\pm$ 0.50			3.36 $\pm$ 0.55		
	Recommendation from parents or others <sup>d</sup>	3.47 $\pm$ 0.39			3.44 $\pm$ 0.44			3.52 $\pm$ 0.43		
	Service to others	3.68 $\pm$ 0.43			3.35 $\pm$ 0.35			3.82 $\pm$ 0.35		

### 3.4 Correlation between critical thinking disposition, self-leadership, and nursing professionalism

As a result of analyzing the correlation between critical thinking disposition, self-leadership, and nursing professionalism, nursing professionalism had a significant positive correlation with critical thinking disposition ( $r=.525$ ,  $p<.001$ ) and self-leadership ( $r=.557$ ,  $p<.001$ ). There was also a significant positive correlation between critical thinking disposition and self-leadership ( $r=.425$ ,  $p<.001$ ) [Table 4].

[Table 4] Correlation between critical thinking disposition, self-leadership, and nursing professionalism of participants (N=185)

Variables	Critical Thinking Disposition $r(p)$	Self-Leadership $r(p)$	Nursing Professionalism $r(p)$
Critical Thinking Disposition	1	.425(<.001)	.525(<.001)
Self-Leadership		1	.557(<.001)
Nursing Professionalism			1

### 3.5 Factors affecting nursing professionalism

Among the general characteristics that had a significant effect on nursing professionalism, the effects of thoughts on nursing profession, grade, and personality were used for stepwise multiple regression analysis. As a result of examining the multicollinearity between the independent variables, there was no problem because the variance inflation factor (VIF) was 1.05~1.13, less than the general cutoff of 10. As a result of residual analysis, the regression assumption was satisfied by confirming the independence between the error terms (Durbin-Waston 1.835).

The results of analyzing the factors affecting the nursing professionalism of the participants showed that critical thinking disposition ( $\beta=.374$ ,  $t=6.856$ ,  $p=.003$ ) and self-leadership ( $\beta=.384$ ,  $t=7.776$ ,  $p<.001$ ) had a significant effect on the nursing professionalism of nursing students. The regression model was statistically significant ( $F=56.542$ ,  $p<.001$ ), and its explanatory power was 45.4% [Table 5].

[Table 5] Factors affecting nursing professionalism of participants (N=185)

Variables	B	SE	$\beta$	$t(p)$	Durbin-Watson	R <sup>2</sup>	Adjusted R <sup>2</sup>	F(p)
Constant	14.213	3.523		3.233(<.001)	1.835	.445	.454	56.542(<.001)
Critical Thinking Disposition	.622	.093	.374	6.856(.003)				
Self-Leadership	.253	.035	.384	7.776(<.001)				

## DISCUSSION

This study investigated the critical thinking disposition, self-leadership, and nursing professionalism of nursing students and identified factors affecting nursing professionalism to establish basic data for improving nursing education programs.

In terms of general characteristics, it was significant differences in critical thinking disposition according to gender and personality. Male students showed higher critical thinking disposition scores than female students, which was consistent with the findings of the study by Shin and Cho [31]. However, in the study by Lee and Ha [32], female students showed higher critical thinking disposition than male students, which was different from this study.

The average score of the participants' critical thinking disposition was 3.60. Although making a direct comparison is difficult due to using other tools, the score in this study was higher than the scores of 3.37 in Shin and Cho [31] on graduating nursing students and 3.47 in Baek, Kim, and Ryu [33] on nursing students who experienced clinical practice, 3.52 in Choi & Lee[34]. In addition, the results were consistent with the scores of 3.60 in Kim et al. [35], 3.60 in Kwon & Kim [36], using the same tool and 3.61 in Lee and Ha [32] targeting junior nursing students. Lower than the scores of 3.67 in Son & Nam [37], 3.69 in Han & Yang [38], 3.78 in Yoo's study[39] which used the same tool.

There were significant differences in self-leadership according to religion and grade, among general characteristics. Studies by Yang & Moon [40] and Lee & Kim [41] also reported significant differences according to grade, and junior students had higher self-leadership scores than senior students.

The average score of self-leadership was 3.46, lower than the scores of 3.51 Kwon & Kim [36], 3.68 in Lee & Kim [40], and 3.72 in Yang & Moon [41]. Even though making a direct comparison is difficult because of using other instrument, lower than the scores of 3.74 in in Son & Nam [37], suggesting the need for interventions to reinforce the self-

leadership of the participants in this study. On the other hand, the fact that senior students had lower self-leadership scores, even though they had more clinical practice experience, suggests the need to improve the nursing program curriculum. Nursing professionalism had a significant difference in according to grade, personality, and thoughts on nursing professionalism among general characteristics. Junior students had higher scores than senior students, which was consistent with the results of Hwang & Shin [42] and Cho & Kim [43], which reported higher nursing professionalism scores for seniors, suggesting the need for attention and improvement in nursing theory education and practical education courses. In addition, students with optimistic personalities had higher professionalism scores, consistent with the findings of Park [3], in which extroverted students had higher nursing professionalism scores.

The average score of nursing professionalism was 3.60. Although making a direct comparison is difficult due to using different tools, it was similar to the score of 3.59 in Cho & Kim [43], 3.56 in Lee & Seo [44] but lower than the scores of 3.84 in Lee & Kim [45], 3.87 in Kang et al. [12]. The score was also lower than the 3.82 of Jung et al. [46], 3.95 in Yoo's study [39] which used the same tool. These results show the need for repeated research on the participants of this study and efforts to improve their curriculum.

As a result of analyzing the correlations between the critical thinking disposition, self-leadership, and nursing professionalism, nursing professionalism had a significant positive correlation with critical thinking disposition ( $r=.525$ ,  $p<.001$ ) and self-leadership ( $r=.557$ ,  $p<.001$ ). There was also a significant positive correlation between critical thinking disposition and self-leadership ( $r=.425$ ,  $p<.001$ ). These results were consistent with the findings of Park [3] ( $r=.452$ ,  $p<.001$ ) and Kim & Kim [22] ( $r=.43$ ,  $p<.001$ ) which reported a significant positive correlation between nursing professionalism and self-leadership, and Park [3] which showed a significant positive correlation between critical thinking disposition and self-leadership ( $r=.405$ ,  $p<.001$ ), Son & Nam [37] ( $r=.55$ ,  $p<.001$ ), Kwon & Kim [36] ( $r=.65$ ,  $p<.001$ ). These results suggest the need to improve nursing education program curriculums to improve these variables.

As a result of analyzing the factors affecting the nursing professionalism of the participants, there was a significant difference according to critical thinking disposition and self-leadership, and the explanatory power of the model was 45.4%.

The results above and the findings of previous studies show that nursing professionalism is related to critical thinking disposition and self-leadership and that they are the primary factors in forming nursing professionalism.

Therefore, efforts are needed to improve nursing professionalism, critical thinking disposition, and self-leadership, which are important education outcomes measured by the Korea Accreditation Board of Nursing, through improving curriculums for forming nursing

professionalism.

Based on the results of this study, further studies should be conducted with more subjects and find various variables that affect nursing professionalism.

## CONCLUSION

This study investigated the relationship between the critical thinking disposition, self-leadership, and nursing professionalism of nursing students and identified their effect on nursing professionalism to prepare data necessary for improving curriculums to enhance nursing professionalism.

The findings showed that nursing professionalism had a significant correlation with critical thinking disposition and self-leadership. There was also a significant correlation between critical thinking disposition and self-leadership, and critical thinking disposition and self-leadership were factors affecting nursing professionalism.

Based on the results above, nursing colleges should develop and improve regular courses and extracurricular programs to enhance nursing students' nursing professionalism. Continued research is also required to observe the progress of these efforts.

There is a limitation in generalizing the results of this study because the target subjects were nursing students in one city. Further studies need to identify variables affecting the formation of nursing professional values through a replication study with expanded subjects.

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