

## Impact of Self-Leadership, Critical Thinking Disposition, and Self-Efficacy on Clinical Competency in Nursing Students

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### [Abstract]

This study investigated the relationships among self-leadership, critical thinking disposition, self-efficacy, and clinical competency in 144 third-year nursing students. As a result of the study, Clinical competency was significantly higher in students with greater satisfaction in college life, major, and clinical practice. It showed a positive correlation with self-leadership, critical thinking disposition, and self-efficacy. Regression analysis identified self-leadership as the most influential factor, followed by critical thinking disposition, explaining 36.0% of the variance. These findings highlight the need for educational interventions to enhance self-leadership, critical thinking, and self-efficacy. Additionally, satisfaction with college life, major, and clinical practice plays a key role in improving clinical competency. Further longitudinal and repeated studies are recommended to validate these results.

▶ **Key words:** Nursing students, Self-leadership, Critical thinking disposition, Self-efficacy, Clinical competency

### [요 약]

본 연구는 간호대학 3학년 학생 144명을 대상으로 셀프리더십, 비판적 사고성향, 자기효능감이 임상수행능력에 미치는 영향을 분석하였다. 일반적 특성에서는 대학생활 만족도, 전공 만족도 및 임상실습 만족도가 높은 대상자에게서 임상수행능력이 유의하게 높았다. 상관분석 결과, 임상수행 능력은 셀프리더십, 비판적 사고성향, 자기효능감과 유의한 정적 상관관계를 보였다. 회귀분석에서는 셀프리더십이 임상수행능력에 가장 큰 영향을 미치는 요인이었으며, 비판적 사고성향도 임상수행능력에 영향을 미쳐 임상수행능력 예측에서 36.0%를 설명하였다. 본 연구결과는 간호대학생의 셀프리더십, 비판적 사고성향, 자기효능감을 강화할 수 있는 교육적 개입이 필요함을 시사하며, 이와 더불어 전반적인 대학생활, 전공 및 임상실습 만족도 또한 임상수행능력 향상에 중요한 요인임을 알 수 있다. 간호대학생들의 임상수행능력 향상을 위하여 다양한 요인들의 장기적 영향을 검증하기 위한 종단적 연구와 연구결과의 일반화를 위한 반복연구가 필요할 것으로 생각된다.

▶ **주제어:** 간호대학생, 셀프리더십, 비판적 사고성향, 자기효능감, 임상수행능력

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## I. Introduction

### 1. Need for Research

In recent years, the quality and standards of healthcare services have rapidly advanced, necessitating that nurses acquire a high level of professional knowledge and clinical nursing skills. Furthermore, the healthcare environment increasingly emphasizes patient rights, and patients themselves are demanding higher-quality nursing care[1]. Thus, nursing education institutions strive to enhance clinical competency, which serves as a fundamental competency for fulfilling the role of a nurse, through high-quality nursing education [2].

In addition, in 2010, the Korea Institute of Nursing Education and Evaluation strongly requested that each university present specific learning goals so that nursing students could develop their clinical performance skills and efficiently operate the clinical practice curriculum so that the goals could be achieved. Clinical competency is an important factor in evaluating the level of competency as a professional nurse while a nurse encounters practice after graduation [3], so it is necessary to acquire sufficient clinical competency from the time of nursing college students.

To enhance the clinical competency of nursing students, it is essential not only to acquire solid nursing knowledge through theoretical and practical education in the classroom but also to develop the skills and attitudes necessary for accurately identifying nursing problems, implementing appropriate nursing interventions, and effectively communicating and interacting with healthcare professionals and patients in clinical settings [4].

To enhance clinical competency, one personal characteristic to consider is self-leadership, which involves the process of exerting influence on oneself to achieve self-motivation. As a personal trait, self-leadership varies in potential among individuals but can be fostered, developed, and

maintained through learning and education. Individuals with high self-leadership tend to be more innovative and creative compared to those with lower self-leadership, and these traits are reflected in their work performance, leading to more innovative and creative outcomes [5].

The clinical competency of nursing students has been reported to improve through self-directed inquiry and active learning to solve nursing problems encountered in clinical practice [6]. Additionally, clinical competency in nurses is defined as the ability to appropriately demonstrate acquired knowledge, skills, attitudes, and judgment in clinical situations and to competently fulfill their roles. Notably, critical thinking disposition is considered an essential factor for clinical competency, as it enables individuals to independently assess situations, make judgments, and engage in problem-solving and decision-making in their assigned tasks [7-8]. Furthermore, studies have shown that higher levels of critical thinking disposition are associated with improved clinical competency [9-11].

Self-efficacy is the belief that an individual can successfully accomplish the actions required to produce a certain result, and it is also an important personal characteristic that promotes performance in the process of performing specific tasks and academic achievement [12]. People with high self-efficacy are said to effectively cope with and perform their duties, and to constantly strive to achieve their goals. Nursing students' self-efficacy in clinical practice can be said to be a judgment on their ability to plan and practice necessary actions to solve required problems, so the higher the self-efficacy, the more confident they are in clinical practice [13].

Previous studies have reported various factors influencing the clinical competency of nursing students, including self-leadership, communication skills, professional self-concept, nursing professionalism, self-efficacy, ego-resilience, self-directed learning, critical thinking disposition,

as well as satisfaction with clinical practice and university life [14]. However, no studies have specifically examined the relationships among self-leadership, critical thinking disposition, self-efficacy, and clinical competency in nursing students.

Therefore, this study was conducted to identify the factors influencing the clinical competency of nursing students, focusing on self-leadership, critical thinking disposition, and self-efficacy. Furthermore, it aims to provide fundamental data for the development of intervention programs to enhance clinical competency.

## 2. Purpose

The purpose of this study is to identify the effects of self-leadership, critical thinking disposition, and self-efficacy on the clinical competency of nursing students, and the specific purposes are as follows.

Assess self-leadership, critical thinking disposition, self-efficacy, and clinical competency of nursing students.

To identify differences in self-leadership, critical thinking disposition, self-efficacy, and clinical competency according to general characteristics of nursing students.

To investigate the correlation between self-leadership, critical thinking disposition, self-efficacy and clinical competency of nursing students.

To examine the effects of self-leadership, critical thinking disposition, and self-efficacy on the clinical competency of nursing students.

## 3. Definition of Terms

### 3.1 Self-leadership

Self-leadership refers to the process by which individuals influence themselves through changes in their thoughts and behaviors [12]. Self-leadership refers to a score measured with a total of 18 questions modified and supplemented by Kim [15] based on the questionnaire developed by Manz [16].

### 3.2 Critical Thinking Disposition

Critical thinking disposition refers to the personal inclination and habit to value and use purposeful and self-regulating judgment thinking to derive problem-solving and decision-making in personal or professional work. In this study, critical thinking disposition refers to the score measured using the critical thinking disposition measuring tool of nursing students developed by Yoon [17].

### 3.3 Self-efficacy

Self-efficacy is an individual's judgment that he or she can perform a task successfully and is an individual's belief or expectation that he or she can perform the desired behavior.[12]. Self-efficacy in this study refers to the score measured by the self-efficacy tool developed by Sherer et al [18], and localized by Hong [19]. The higher the score, the higher the self-efficacy.

### 3.4 Clinical competency

Clinical competence is the ability to function competently and demonstrate appropriate knowledge, judgment, and skills in a clinical setting [20], clinical competency in this study refers to the score measured by a 45-item measurement tool developed by Lee Won-hee and others modified and supplemented by Choi [21].

## II. METHOD

### 1. Research Design

This study is a descriptive research study to identify the effects of self-leadership, critical thinking disposition, and self-efficacy on clinical competency in nursing students who have experienced clinical practice.

### 2. Measurements

#### 2.1 Self leadership

The self-leadership measurement tool consisted of a total of 18 questions modified and

supplemented by Kim [15] based on the questionnaire developed by Manz [16]. The composition of the items consists of 3 items of 'self-expectation', which is the overcoming of challenges, successful performance of tasks, and confidence in one's abilities, 3 items of 'rehearsal', an attitude of thinking deeply and practicing in advance before executing a task, and setting goals. 3 items of 'goal setting', which means the behavior of setting priorities and instructing oneself to execute after doing so, 3 items of 'self-compensation', which is material rewards and abstract intangible rewards given to oneself, and 3 items of 'self-compensation' It consists of 3 items of 'self-criticism', which is a conscious self-discipline to analyze the cause of failure, and 3 items of 'constructive thinking', which means a positive thinking pattern that views difficult situations as opportunities rather than obstacles. The range of scores ranged from a minimum of 18 points to a maximum of 90 points, and was measured on a 5-point Likert scale from 1 point for 'not at all' to 5 points for 'very much so', with higher scores indicating higher self-leadership. At the time of development, the reliability of the tool was Cronbach's alpha=.70~.87, and in this study, Cronbach's  $\alpha$ =.87.

## 2.2 Critical thinking disposition

The critical thinking disposition measurement tool developed by Yoon [17] was used. There are 7 sub-domains: 'Prudence' 4 items, 'Intellectual Passion/Curiosity' 5 items, 'Confidence' 4 items, 'Systematicity' 3 items, 'Intellectual Fairness' 4 items, 'Sound Skepticism' 4 items, 'Objectivity' It consists of a total of 27 items with 3 items. Each item is rated on a 5-point Likert scale ranging from 1 point for "not at all" to 5 points for "very much so", with higher scores indicating higher critical thinking disposition. At the time of development, the reliability of the tool was Cronbach's alpha=.84, and in this study, Cronbach's  $\alpha$ =.88.

## 2.3 Self efficacy

The self-efficacy measurement tool was created by Sherer et al [18] and translated by Hong[19]. It consists of a total of 23 questions, consisting of two subscales, general self-efficacy (17 questions) and social efficacy (6 questions). On a 5-point Likert scale, "very much" is 5 points and "not at all" is 1 point, with higher scores indicating higher self-efficacy. At the time of tool development, Cronbach's  $\alpha$ =.86, for general self-efficacy and Cronbach's  $\alpha$ =.71 for social self-efficacy. In this study, Cronbach's  $\alpha$ =.86.

## 2.4 Clinical competency

The clinical competency measurement tool was developed by Lee Won-hee et al. and modified and supplemented by Choi [21]. It consists of 45 questions in 5 areas related to clinical competency: nursing process (11 questions), nursing skills (11 questions), education/collaboration (8 questions), interpersonal relationship/communication (6 questions), professional development (9 questions). It is a 5-point Likert scale ranging from 1 point for 'not at all' to 5 points for 'very much so', with higher scores indicating higher clinical performance. At the time of development, the reliability of the tool was Cronbach's alpha=.96, and in this study, Cronbach's  $\alpha$ =.95.

## 3. Participants

The participants of this study were 3rd year students enrolled in a 4-year nursing department located in Gumi, and a survey was conducted. The sample size was determined using G\*Power 3.1.9.7 for linear multiple regression analysis. By setting the effect size to 0.15, power ( $1-\beta$  err prob) to 0.95, and the number of predictors to 4, the calculated required sample size was 124 participants. Nursing students who understood the purpose of the study and voluntarily agreed to participate in the study and signed a written informed consent were enrolled. Among the 152 third-year students, 147 completed the survey, yielding a response rate of

96.1%. After excluding incomplete responses, a total of 144 questionnaires were included in the final analysis.

#### 4. Data Collection

Data collection was conducted from October 19 to October 23 using a self-report questionnaire. After distributing the questionnaire to the consenting participants, they were asked to fill it out and retrieved it on the spot. Of the total 152 third-year nursing students, 145 questionnaires were collected. After excluding one response due to insincerity, a total of 144 questionnaires were included in the final analysis.

#### 5. Ethical Considerations

An explanation of the purpose and procedure of the study was distributed so that the participants could understand it, and it was explained that they could withdraw at any time if they did not want to do so even after permission was granted. And It was informed orally and in writing that there would be no disadvantages as a result, that the personal information of the research participants would be strictly guaranteed, and that the data would be used only for research purposes. Participants who voluntarily consented to this took part in the survey after giving written consent, and afterwards, personal identification information was encrypted during statistical processing to protect the privacy and personal information of the participants.

#### 6. Analysis

Data analysis was performed using IBM SPSS WIN 18.0 Program.

Frequency, percentage, average and standard deviation were used for general characteristics, self-leadership, critical thinking disposition, self-efficacy, and clinical competency of the participants.

The differences in self-leadership, critical thinking disposition, self-efficacy, and clinical

competency according to the general characteristics of the participants were analyzed using independent t-test and ANOVA, and Scheffe's test was used post-hoc.

The correlation between the participants' self-leadership, critical thinking disposition, self-efficacy, and clinical competency was analyzed by Pearson's correlation coefficient.

Factors influencing the participants' clinical competency were analyzed using stepwise multiple regression.

### III. RESULTS

#### 1. General characteristics

Frequency analysis was conducted to examine the general characteristics of the participants. The participants' ages ranged from 20 to 36 years, with an average age of 21.3 years. Among them, 28 (19.4%) were male, and 116 (80.6%) were female. Additionally, 51 participants (35.4%) reported having a religious affiliation. As for housing type, 61 (42.4%) lived with their parents, and 83 (57.6%) lived alone or in a dormitory. As for satisfaction with college life, 34 students (23.6%) were satisfied, and 86 students (59.7%) were average. As for major satisfaction, 54 (37.5%) were satisfied, 68 (47.2%) were average, and 22 (15.3%) were dissatisfied. As for satisfaction with clinical practice, 54 (37.5%) were satisfied, 73 (50.7%) were normal, and 17 (11.8%) were dissatisfied. As for the motivation for choosing a major, 60 students (41.7%) had the highest employment rate, and 86 students (59.7%) wanted to work at a university hospital[Table 1].

Table 1. General characteristics (N=144)

Characteristics	Category	n	%
Age	Mean±SD : 21.3(1.6)		
Gender	Male	28	19.4
	Female	116	80.6
Religion	religious	51	35.4
	none	93	64.6
dwelling type	live at home	61	42.4
	self-catering and dorm	83	57.6
college life satisfaction	Satisfaction	34	23.6
	commonly	86	59.7
	dissatisfaction	24	16.7
major satisfaction	Satisfaction	54	37.5
	commonly	68	47.2
	dissatisfaction	22	15.3
clinical practice satisfaction	Satisfaction	54	37.5
	commonly	73	50.7
	dissatisfaction	17	11.8
academic performance	4.0 or higher	21	14.6
	Above 3.5 and below 4.0	56	38.9
	less than 3.5	67	46.5
Motivation for choosing a major	employment rate	60	41.7
	solicitation from others	24	16.7
	aptitude	47	32.6
	according to grades	13	9.0
type of job you want	university hospital	86	59.7
	secondary hospital	34	23.6
	etc	24	16.7

## 2. Participants' self-leadership, critical thinking disposition, self-efficacy and clinical competency

Looking at the participants' self-leadership, critical thinking disposition, self-efficacy, and clinical competency, self-leadership 3.68 points, critical thinking disposition 3.58 points, self-efficacy 3.28 points, and clinical competency 3.72 points[Table 2].

Table 2. participants' self-leadership, critical thinking disposition, self-efficacy and clinical competency(N=144)

Variables	M±SD	Min	Range	Max
Self-leadership	3.68(.48)	1.61	1-5	5.00
Critical thinking disposition	3.58(.42)	2.04	1-5	4.70
Self-efficacy	3.28(.47)	2.57	1-5	4.65
Clinical competency	3.72(.45)	2.42	1-5	5.00

## 3. Self-leadership, critical thinking disposition, self-efficacy and clinical competency according to general characteristics

There was a significant difference in self-leadership according to general characteristics according to gender, college life satisfaction, major satisfaction, and clinical practice satisfaction. Male students had higher self-leadership( $t=2.02$ ,  $p=.045$ ) than female students, and self-leadership was found to be significantly higher in cases where they were satisfied with college life( $F=8.85$ ,  $p<.000$ ), major, and clinical practice( $F=3.84$ ,  $p=.024$ ).

There were significant differences in critical thinking disposition according to general characteristics according to gender, college life satisfaction, major satisfaction, and clinical practice satisfaction. Male students had higher critical thinking disposition than female students ( $t=3.25$ ,  $p=.001$ ), college life ( $F=9.18$ ,  $p<.000$ ), major ( $F=7.39$ ,  $p=.001$ ), and clinical practice( $F=4.81$ ,  $p=.009$ ) was found to have significantly higher critical thinking disposition.

There was a significant difference in self-efficacy according to general characteristics according to gender, college life satisfaction, major satisfaction, and clinical practice satisfaction. Male students showed higher self-efficacy than female students ( $t=2.10$ ,  $p=.037$ ), college life ( $F=4.56$ ,  $p=.012$ ), major ( $F=5.90$ ,  $p=.003$ ), and clinical practice( $F=6.41$ ,  $p=.002$ ) was found to have significantly higher self-efficacy.

There was a significant difference in clinical competency according to general characteristics according to college life satisfaction, major satisfaction, and clinical practice satisfaction. It was found that those who were satisfied with college life( $F=10.14$ ,  $p<.000$ ), major( $F=9.71$ ,  $p<.000$ ), and clinical practice( $F=3.74$ ,  $p=.026$ ) had significantly higher clinical competency[Table 3].

Table 3. Self-leadership, critical thinking disposition, self-efficacy and clinical competency according to general characteristics (N=144)

Characteristics	category	self-leadership			clinical thinking disposition			self-efficacy			clinical competency		
		M (SD)	F/t	p scheffe	M (SD)	F/t	p scheffe	M (SD)	F/t	p scheffe	M (SD)	F/t	p scheffe
Gender	male	3.84 (.61)	2.02	.045	3.81 (.51)	3.25	.001	3.45 (.52)	2.10	.037	3.82 (.52)	1.32	.189
	female	3.64 (.44)			3.53 (.38)			3.24 (.45)			3.70 (.43)		
Religion	religious	3.77 (.50)	1.62	.106	3.62 (.51)	0.78	.435	3.34 (.55)	1.16	.249	3.80 (.49)	1.62	.106
	none	3.63 (.47)			3.56 (.36)			3.24 (.43)			3.68 (.42)		
dwelling type	live at home	3.61 (.54)	- 1.31	.192	3.51 (.44)	- 1.70	.091	3.28 (.46)	0.13	.897	3.64 (.46)	- 1.93	.055
	self catering and dorm	3.72 (.43)			3.63 (.40)			3.27 (.49)			3.78 (.43)		
college life satisfaction	satisfaction <sup>a</sup>	3.96 (.44)	8.85	<.001 a> b, c	3.84 (.34)	9.18	<.001 a> b, c	3.48 (.60)	4.56	.012 a> b, c	3.97 (.45)	10.14	<.001 a> b, c
	commonly <sup>b</sup>	3.60 (.48)			3.52 (.43)			3.24 (.41)			3.69 (.40)		
	dissatisfaction <sup>c</sup>	3.53 (.40)			3.46 (.36)			3.13 (.42)			3.47 (.45)		
major satisfaction	satisfaction <sup>a</sup>	3.86 (.43)	9.30	<.001 a> b, c	3.71 (.39)	7.39	.001 a>c	3.45 (.57)	5.90	.003 a> b, c	3.92 (.40)	9.71	<.001 a> b, c
	commonly <sup>b</sup>	3.63 (.48)			3.56 (.40)			3.20 (.36)			3.61 (.40)		
	dissatisfaction <sup>c</sup>	3.37 (.45)			3.32 (.42)			3.12 (.43)			3.55 (.57)		
clinical practice satisfaction	satisfaction <sup>a</sup>	3.82 (.52)	3.84	.024 a>b	3.72 (.43)	4.81	.009 a>b	3.46 (.55)	6.41	.002 a>b	3.83 (.48)	3.74	.026 a>c
	commonly <sup>b</sup>	3.59 (.45)			3.51 (.40)			3.17 (.38)			3.69 (.36)		
	dissatisfaction <sup>c</sup>	3.58 (.38)			3.47 (.37)			3.17 (.41)			3.51 (.61)		
academic performance	4.0 or higher	3.68 (.45)	1.38	.255	3.64 (.45)	0.54	.581	3.32 (.60)	0.19	.817	3.58 (.62)	1.46	.234
	Above 3.5 and below 4.0	3.76 (.40)			3.61 (.36)			3.29 (.45)			3.78 (.36)		
	less than 3.5	3.61 (.55)			3.54 (.46)			3.25 (.46)			3.72 (.45)		
Motivation for choosing a major	employment rate	3.63 (.35)	1.84	.142	3.53 (.33)	2.23	.087	3.24 (.37)	2.07	.106	3.65 (.41)	1.09	.356
	solicitation from others	3.53 (.61)			3.47 (.53)			3.14 (.40)			3.70 (.54)		
	aptitude	3.79 (.50)			3.70 (.41)			3.33 (.58)			3.81 (.43)		
	according to grades	3.76 (.61)			3.58 (.53)			3.51 (.53)			3.75 (.48)		
type of job you want	university hospital	3.75 (.40)	2.41	.093	3.61 (.37)	0.58	.558	3.28 (.47)	0.49	.610	3.73 (.45)	0.48	.619
	secondary hospital	3.58 (.47)			3.52 (.36)			3.22 (.37)			3.76 (.32)		
	etc	3.56 (.71)			3.57 (.63)			3.35 (.62)			3.64 (.59)		

#### 4. Correlation between factors

Correlation analysis was conducted to find out the correlation between factors. As a result of the analysis, clinical competency was found to have a significant positive correlation with self-leadership, critical thinking disposition, and self-efficacy ( $p < .01$ ). Therefore, it can be seen that the higher the self-leadership (.588), critical thinking disposition (.543), and self-efficacy (.317), the higher clinical competency [Table 4].

Table 4. Correlation between factors (N=144)

	self-leadership	clinical thinking disposition	self-efficacy	clinical competency
self-leadership	1			
clinical thinking disposition	.753**	1		
self-efficacy	.395**	.432**	1	
clinical competency	.588**	.543**	.317**	1

\*\* $p < .01$

#### 5. The effects of self-leadership, critical thinking disposition, and self-efficacy on clinical competency

A stepwise multiple regression analysis was performed to investigate the impact of self-leadership, critical thinking disposition, and self-efficacy on clinical competency.

To conduct regression analysis, multicollinearity between the correlation of the dependent variable and the independent variables was reviewed. The auto-correlation of the dependent variable used the Durbin-Watson index. Since the Durbin-Watson index is 2.124, the dependent variable is independent without auto-correlation. For multicollinearity between independent variables, the VIF (variance inflation factor) index was used. The VIF index between independent variables ranged from 1.000 to 2.300, which was less than 10, indicating no multicollinearity. Finally, as a result of residual analysis, linearity was confirmed in the normal P-P plot of regression standardized residuals for clinical competency. In the scatterplot, the distribution of the residuals is

evenly spread around 0, confirming the normality and equal variance of the error terms. Therefore, it is suitable for performing regression analysis.

Multiple regression analysis revealed that self-leadership and critical thinking disposition sequentially influenced clinical competency. Among these, self-leadership was identified as a significant predictor of clinical competency, with an explanatory power of 34.2%.

With the addition of critical thinking disposition, the overall explanatory power increased by 1.8%, reaching 36.0%. Therefore, higher self-leadership ( $B = .385$ ) and higher critical thinking disposition ( $B = .246$ ) were associated with improved clinical competency [Table 5].

Table 5. The influences of self-leadership, critical thinking disposition, and self-efficacy on clinical competency (N=144)

	Step 1		Step 2	
	B	$\beta$	B	$\beta$
Constant	1.716		1.426	
self-leadership	.546	.588***	.385	.415***
critical thinking disposition			.246	.230*
R <sup>2</sup> adj( $\Delta$ R <sup>2</sup> adj)	.342		.360	
F	75.229***		41.275***	

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

## IV. Discussion

This study aimed to examine the correlations between self-leadership, critical thinking disposition, self-efficacy, and clinical competency in nursing students and to identify factors influencing clinical competency. By doing so, this study seeks to provide foundational data for developing strategies to enhance the clinical competency of nursing students.

In this study, the self-leadership score of nursing students was measured at 3.68 out of 5. This result is generally consistent with the 3.63 score reported by Dong and Choi [14] using the same measurement tool, and higher than the 3.44 score reported by Park [22]. Although direct comparisons

are challenging due to differences in the sample size and academic year distribution, previous studies that included first-year students reported lower self-leadership scores. This suggests that self-leadership tends to increase as students progress to higher academic years.

This study confirmed significant differences in clinical competency among nursing students based on gender, satisfaction with college life, satisfaction with their major, and satisfaction with clinical practice. Male students demonstrated higher clinical competency compared to female students. Additionally, students who reported higher satisfaction levels in college life, major, and clinical practice exhibited superior clinical competency. These findings suggest that personal characteristics and educational satisfaction significantly impact nursing students' clinical competency.

The result showing higher clinical competency among male students may be related to individual characteristics. Günay and Kılınç [23] highlighted that personal traits, such as confidence and self-directed learning tendencies, can influence clinical outcomes. This partially aligns with the findings of this study, where male students outperformed female students in clinical competency. However, further research is needed to investigate the underlying causes of gender differences in clinical competency.

The significant impact of satisfaction with college life on clinical competency aligns with previous research by Carless-Kane and Nowell [24], which emphasized that a positive perception of the learning environment contributes to improved academic and clinical outcomes. Students with high satisfaction in their college life are more motivated and perceive greater support in academic and clinical activities, ultimately enhancing their confidence and performance in clinical settings.

The strong association between satisfaction with major and clinical practice and clinical competency aligns with the findings of Kim [25] and Olausson et al. [26]. Olausson et al. reported that

supplementary simulation training facilitates knowledge transfer between learning environments, enhances clinical reasoning skills, and boosts confidence, ultimately improving clinical competency. Similarly, this study found that students with higher satisfaction in their major and clinical practice demonstrated greater clinical competency. These findings suggest that improving the quality of educational and clinical environments plays a crucial role in enhancing students' satisfaction and strengthening their clinical skills. Therefore, strategies to increase nursing students' engagement in their major and clinical practice should be developed to further enhance their clinical competency.

In conclusion, enhancing nursing students' clinical competency requires improving the quality of learning environments and fostering student satisfaction. Strategies to enrich academic and clinical experiences, such as implementing supplementary simulation training and other innovative educational approaches, can help increase satisfaction with major and clinical practice. Such integrated efforts will not only enhance students' clinical competency but also better prepare them for their roles as professional nurses.

This study identified a significant positive correlation between self-leadership, critical thinking disposition, self-efficacy, and the clinical competency of nursing students. Furthermore, regression analysis revealed that self-leadership was the most influential factor affecting clinical competency, while critical thinking disposition was also confirmed as a significant predictor. Collectively, these variables accounted for 36.0% of the variance in clinical competency. These findings highlight the critical role of personal and cognitive attributes in preparing nursing students for professional practice.

Self-leadership emerged as the strongest predictor of clinical competency, highlighting its importance in empowering students to take

initiative, set goals, and manage their learning in clinical environments. This finding aligns with Lee et al [27], who reported that self-leadership positively influences problem-solving and decision-making in nursing students. Developing self-leadership through targeted interventions, such as reflective practice and goal-setting workshops, could further enhance students' ability to perform effectively in clinical settings.

Critical thinking disposition also showed a significant positive relationship with clinical competency. This result emphasized the role of critical thinking in enabling nursing students to analyze complex clinical scenarios and make sound decisions. However, students in this study demonstrated moderate levels of critical thinking disposition, consistent with prior findings that critical thinking develops with experience and exposure to diverse clinical cases. Integrating simulation-based learning and problem-based learning (PBL) into nursing curricula could strengthen critical thinking disposition and enhance clinical performance.

Self-efficacy was not supported as a predictive variable in the regression analysis. However, a significant positive correlation with clinical competency was observed. This correlation suggests that the belief in one's ability to succeed plays a crucial role in clinical performance. Bandura's [28] self-efficacy theory emphasizes that individuals with higher self-efficacy are more persistent and more likely to succeed in challenging tasks. In nursing education, where students frequently encounter high-stress and unpredictable environments, providing structured feedback, mentoring, and skill mastery programs can effectively enhance self-efficacy, ultimately contributing to the improvement of clinical competency.

These findings align with Olausson et al [26], who demonstrated that supplementary simulation training significantly enhances students' confidence, reasoning skills, and ability to transfer knowledge between learning environments. This

underscores the importance of designing educational strategies that integrate theoretical knowledge with practical application to strengthen self-leadership, critical thinking disposition, and self-efficacy.

In conclusion, self-leadership, critical thinking disposition, and self-efficacy are integral to developing nursing students' clinical competency. Nursing education programs should incorporate strategies to enhance these attributes, such as simulation-based learning, reflective practices, and structured feedback. Such approaches will not only improve students' clinical performance but also prepare them for the complexities of professional practice.

The findings of this study provide important implications for nursing education. First, educational interventions are needed to develop self-leadership, critical thinking disposition, and self-efficacy, which can systematically enhance nursing students' clinical competency. Approaches such as simulation-based learning, reflective practice, and feedback systems can support students in building confidence and performing effectively in clinical environments. Furthermore, nursing education programs should evolve toward integrating these personal characteristics and learning strategies to train more effective and competent nurses.

Additionally, this study was designed as a cross-sectional study, which limits the ability to establish clear causal relationships between variables. Therefore, future research should adopt longitudinal study designs to analyze the long-term effects of self-leadership, critical thinking disposition, and self-efficacy on clinical competency. Repeated studies across various academic levels and clinical environments are also needed to enhance the generalizability of the findings and explore practical strategies applicable to real-world nursing practice. Such follow-up studies will not only strengthen nursing students' competencies but also ultimately contribute to improving patient safety and the quality of nursing care.

## V. Conclusion

This study identified significant positive correlations between self-leadership, critical thinking disposition, self-efficacy, and clinical competency in nursing students. The regression analysis further demonstrated that these variables were significant predictors of clinical competency, collectively accounting for 36.0% of the variance. Among these, self-leadership emerged as the strongest predictor, emphasizing the importance of individual initiative and goal-oriented behaviors in clinical settings.

The findings highlight the need for targeted educational interventions to enhance self-leadership, critical thinking disposition, and self-efficacy, which are critical to fostering nursing students' readiness for professional practice. Moreover, addressing factors such as satisfaction with college life, major, and clinical practice through enhanced support systems and learning environments could further bolster students' performance in clinical settings.

Future research should adopt longitudinal study designs to investigate the long-term effects of these factors on clinical competency. Repeated studies across various academic levels and diverse clinical environments are recommended to enhance the generalizability of findings and explore practical strategies applicable to real-world nursing practice. Such efforts will contribute not only to improving nursing students' competencies but also to enhancing patient safety and the quality of nursing care.

## REFERENCES

- [1] K.H. Lee, "Convergence between Ego-resilience, Major Satisfaction and Clinical Competency of Nursing Students," *Journal of the Korean convergence Society*, Vol. 10, No. 3, pp. 297-306, March 2019. DOI: 10.15207/JKCS.2019.10.3.297
- [2] H.S. Jang, and J.S. Lee, "Effects of Intensive Clinical Training for Nursing Students in Nursing Practice on their Clinical Competence, State Anxiety, and Clinical Practice Stress," *Journal Korean Academy Fundamental Nursing*, Vol. 23, No. 4, pp. 419-429, November 2016. DOI: 10.7739/jkafn.2016.23.4.419
- [3] J.W. Park, C.J. Kim, Y.S. Kim, M.S. Yoo, H.R. You, S.M. Chae, and J.A. Ahn, "Impact of Critical Thinking Disposition, General Self-efficacy and Leadership on Clinical Competence in Nursing Students," *Korean Journal of Medical Education*, Vol. 24, No. 3, pp. 223-231, September 2012. DOI: 10.3946/kjme.2012.24.3.223
- [4] E.J. Lee, Y.J. Yi, Y.S. Kim, et al., "Comparison of Factors affecting Clinical Competence between Associate and Bachelor Nursing Students Completed Nursing Courses," *Journal of Korean Academy of Society Nursing Education(JKASN)*, Vol. 17, No. 2, pp. 218-225, Aug. 2011.
- [5] Y.S. Kang, Y.J. Choi., D.L. Park, and I.J. Kim, "A Study on Nurses' Self-leadership Self-esteem, and Organizational Effectiveness," *Journal of Korean Academy of Nursing Administration*, Vol. 16, No. 2, pp. 143-151, June 2010. DOI: 10.11111/jkana.2010.16.2.143
- [6] S.D. Holaday, and K.M. Buckley, "Addressing Challenges in Nursing Education through a Clinical Instruction Model Based on a Hybrid, Inquiry-based Earning Framework," *Nursing Education Perspectives*, Vol. 29, No. 6, pp. 353-358, November 2008.
- [7] S.H. Yang, and I.O. Sim, "Relationship between Problem-solving Ability, Critical Thinking Disposition, Creativity, Self-efficacy, and Nursing Process Competence of Nursing Students," *The Korea Contents Society*, Vol. 16, No. 5, pp. 612-622, May 2016. DOI: 10.5392/JKCA.2016.16.05.612
- [8] J.Y. Lee, and S.Y. Park, "Relationship between the Practice Environment of Nursing and Critical Thinking Disposition of Nurses in Local General Hospitals," *The Journal of Korean Nursing Administration Academic Society*, Vol. 20, No. 2, pp. 145-153, March 2014. DOI: 10.11111/jkana.2014.20.2.145
- [9] M.S. Kwon, "Professional Self-concept, Critical Thinking Disposition and Clinical Competence in Nursing Students," *Journal of Korean Academic Society of Fundamental Nursing*, Vol. 18, No. 1, pp. 46-56, 2011.
- [10] H.J. Jang, and Y.K. Kwag, "Affecting Factors on Clinical Competence of Nursing Students," *Journal of Korea Academia-Industrial Cooperation Society*, Vol. 14, No. 9, pp. 4380-4387, September 2013. DOI: 10.5762/KAIS.2013.14.9.4380
- [11] S.K. Chung, "Survey of Critical Thinking Disposition, Problem-solving Competence, and Clinical Competence in Nursing Students," *Journal of Korean Academic Society of Fundamental Nursing*, Vol. 18, No. 1, pp. 71-78, February 2011.
- [12] S.Y. Yang, "The Study on Relationship between Characteristics of Cultural Exchanges, Self-efficacy, and Cultural Competency of Nursing Students," *Journal of Korea Contents Association*, Vol. 14, No. 7, pp. 334-345, July 2014. DOI: 10.5392/JKCA.

- 2014.14.07.334
- [13] K.H. Lee, and J.S. Song, "The Effect of Emotional Intelligence on Self-efficacy and Job Stress: Mediating Role of Self-efficacy," *Journal of Korean Academy of Nursing Administration*, Vol. 16, No. 1, pp. 17-25, March 2010. DOI: 10.11111/jkana.2010.16.1.17
- [14] H.J. Dong, and M.S. Choi, "Influence of Professional Self-concept and Self-leadership on Clinical Competence in Nursing Students," *Journal Korean Academy Fundamental Nursing*, Vol. 23, No. 4, pp. 373-382, November 2016. DOI: 10.7739/jkafn.2016.23.4.373
- [15] Kim, H. S., "The Relationship between Self-leadership and Job Satisfaction in Middle School Teachers," [master's thesis], Seoul: Soongsil University, 2003.
- [16] C.C. Manz, "The Art of Self-leadership: Strategies for Personal Effectiveness in Your Life and Work," Englewood Cliffs, Prentice-Hall, 1983.
- [17] Yoon, J. "Development of an Instrument for the Measurement of Critical Thinking Disposition," [doctoral thesis], Seoul: University of Catholic, 2004.
- [18] M. Sherer, J.E. Maddux, B. Mercandante, S. Prentice-Dunn, B. Jacobs, and R.W. Rogers, "The Self-efficacy Scale: Construction and Validation," *Psychological Reports*, Vol. 51, No. 2, pp. 663-671, October 1982. DOI: 10.2466/pr0.1982.51.2.663
- [19] Hong, H. Y. "The Relationship of Perfectionism, Self-efficacy, and Depression," [master's thesis], Seoul: Womans University of Ewha, 1995.
- [20] C. Barrett, and F. Myrick, "Job Satisfaction in Preceptorship and its Effect on the Clinical Performance of the Preceptee," *Journal of Advanced Nursing*, Vol. 27, No. 2, pp. 364-371, December 1998. DOI: 10.1046/j.1365-2648.1998.00511.x
- [21] H.S. Choi, "A Study on the Relationship between Teaching Effectiveness of Clinical Nursing Education and Clinical Competency in Nursing Students," [master's thesis], Seoul: Womans University of Ewha, 2004.
- [22] H.J. Park, "Correlations among Nursing Professionalism, Critical Thinking Disposition, and Self-leadership in Nursing Students," *The Journal of Korean Academic Society of Nursing Education*, Vol. 21, No. 2, pp. 227-236, May 2015. DOI: 10.5977/jkasne.2015.21.2.227
- [23] U. Günay, and G. Kılınç, "The Transfer of Theoretical Knowledge to Clinical Practice by Nursing Students and the Difficulties They Experience: A Qualitative Study," *Nurse Education Today*, Vol. 65, pp. 81-86, March 2018. DOI:10.1016/j.nedt.2018.02.031
- [24] S. Carless-Kane, and L. Nowell, "Nursing Students' Learning Transfer from Classroom to Clinical Practice: An Integrative Review," *Nurse Education in Practice*, Vol. 71, Article 103731, July 2023. DOI: 10.1016/j.nepr.2023.103731
- [25] K.N. Kim, "Affecting Factors on Competence of Clinical Practice of Nursing Students," *The Korean Journal of Stress Research*, Vol. 22, No. 2, pp. 55-65, June 2014. DOI: 10.36907/krivet.2015.18.3.151
- [26] C. Olausson, I. Aase, L.P. Jelsness-Jørgensen, and S.A. Steindal, "Supplementing Clinical Practice in Nursing Homes with Simulation Training: A Qualitative Study of Nursing Students' Experiences," *SAGE Open Nursing*, Vol. 6, pp. 1-11, December 2020. DOI: 10.1177/2377960820981786
- [27] S.H. Lee, E. Choi, and H.J. Kim, "Self-leadership and Clinical Competence in Nursing Students: A Structural Equation Modeling Approach," *Nurse Education in Practice*, Vol. 51, Article 102973, 2021.
- [28] A. Bandura, "Self-efficacy: The Exercise Of Control," W.H. Freeman, 1997.

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