

The Influence of Clinical Competence on Self-leadership, Communication Skills and Emotional Intelligence in Nursing Students

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Abstract

Background/Objectives: The purpose of this study was to investigate factors influencing of self-leadership, communication skills, and emotional intelligence on clinical competence of nursing students.

Methods/Statistical analysis: The design of this study is a descriptive research. The subjects were 190 students in fourth grade of nursing at three universities located in two cities in Republic of Korea. The collected data were analyzed by t-test, ANOVA, Pearson correlation coefficient and multiple regression using SPSS 20.0 program.

Findings: Self-leadership($r=0.51$, $p<.001$), communication skills($r=0.48$, $p<.001$) and emotional intelligence($r=0.41$, $p<.001$) showed a significant positive correlation with clinical competence of nursing students. The factors influencing clinical competence were self-leadership($\beta=0.33$) and communication skills($\beta=0.22$), and the explanatory power of these factors was 31.8%.

Improvements/Applications: The results of this study suggest that it is important to improve the clinical competence by enhancing self-leadership and communication skills of nursing students. Therefore, the results of this study are suggested to be used as a basis for the development of educational programs to improve clinical competence.

Keywords: Relationship, Emotional Intelligence, Leadership, Communication, Competence

1. Introduction

Nursing education organizations are making substantial efforts to raise capable nurses by providing not only theoretical education, but also effective education through on-campus clinical practice and off-campus practice[1]. In the field of nursing education, clinical competence refers to the demonstrated ability to provide sufficient expertise, skills and services at a level satisfying the requirements of the subject in a clinical situation[2]. It could be seen as the ability to integrate nursing practice environments by applying nursing to practice based on knowledge and performing core nursing skills suitable for nursing situations. Accordingly, to provide nursing education that allows the provision of high-quality nursing to nursing subjects, it is very important to develop the ability to solve diverse nursing problems[3]. Communication skills refers to a set of skills used to appropriately express one's opinion or clearly describe one's perspective when one's opinion conflicts with another person's opinion, and is a very important competency for nurses performing nursing tasks to resolve health-related problems in the clinical field[4]. Most students, after acquiring the nursing license, prefer being employed in the clinical field to being employed in diverse fields. Once employed, newly appointed nurses collect patient-related information, resolve health-related problems throughout the nursing process during which the nursing performance and evaluation are performed, and perform direct nursing tasks including nursing skills. In the process of providing nursing, nurses develop their subject-related verbal and non-verbal communications to a certain extent through education, but experience difficulties in communicating while cooperating with personnel from other fields of profession for treatment purposes[5]. In such case, the communication difficulties experienced by nurses serve as a factor degrading their clinical competence[1]. Self-leadership focused on intrinsic motivation is a pattern of self-influence intended to increase individual effectiveness, and may lead to personal/organizational changes and performance through personal creativity and voluntary capability display[6]. It was confirmed that higher self-leadership resulted in higher clinical competence[7]. In terms of enhancing intrinsic competency as a strategy to enhance nursing students' clinical competence, it is more important to develop another competency that allows to flexibly respond to diverse situations than to develop a one-dimensional competency that simply enhances knowledge and skills[7]. Emotional intelligence refers to the ability to adapt to positive emotionality[8], refers to the ability to accurately understand the emotion of others as well as to utilize and control one's emotion, and refers to the ability required to effectively develop a relationship[4]. When providing nursing in the clinical field, nurses are required to show rather behaviors suitable for situations than immediate behaviors that are based on their emotion, and

are required to take adequate actions based on accurate appraisal and determination in a crisis situation as well. Such emotional intelligence not only positively contributes to organizational performance by allowing nurses to positively or negatively interpret the experienced situation, to uplift their positive emotion and to take effective measures[9], but also serves as an important factor that decreases the clinical practice stress experienced by nursing students[10]. Accordingly, it is necessary for nursing students to control their emotion as well as to improve their ability to control their emotion towards a more positive direction[10]. The precedent studies related to the clinical competence of nursing students were examined, and it was confirmed that most of the studies were focused on diverse factors having an influence on clinical competency such as satisfaction with clinical practice[11], clinical practice stress[12], critical thinking disposition[3], problem-solving skills[13] and communication skills[10], but not many of the studies examined the influence of self-leadership relating to intrinsic competency, of communication skills and of emotional intelligence on clinical competence. Accordingly, the purpose of this study is to examine the self-leadership, communication skills, emotional intelligence and clinical competence in nursing students, to confirm the factors having an influence on clinical competence and to propose the results, and, thereby, provide the baseline data required to develop and apply an education program for clinical competency enhancement. The specific purpose of this study is as follows. The first step is to examine the general characteristics as well as the level of self-leadership, communication skills, emotional intelligence and clinical competence of the study participants. The second step is to identify the difference in the clinical competence according to the general characteristics of the participants. The third step is to examine the relationship clinical competence shares with the self-leadership, communication skills and emotional intelligence of the participants. The fourth step is to identify the main factors having an influence on the clinical competence of the participants.

2. Materials and Methods

2.1. Study design

This study was conducted as a descriptive survey to examine the relationship clinical competence shares with the self-leadership, communication skills and emotional intelligence of nursing students, as well as to confirm the factors having an influence on clinical competence.

2.2. Participants and sampling

In this study, senior-year nursing students enrolled in the nursing department at 3 universities located in Chungcheongbuk-do of Korea were selected as the accessible population subjects. The

selection qualifications were as follows: students who reveal their intention to voluntarily participate through the preceding explanation describing the purpose of this study, and students who are capable of understanding and filling out the questionnaire. In the precedent studies[7, 10, 14], the self-leadership, emotional intelligence and communication skills relating to the clinical competence of nursing students were reported to show explanation power values of 48%, 11.7% and 64%, respectively, and the effect size calculated by selecting the lowest score was 0.17. As far as the number of samples is concerned, G Power 3.1.2[15] was used for the sampling process, and, since the number of samples required was 155 when $d=0.17$, level of significance(α) was .05, statistical power was .80, and 25 predictor variables were applied, 200 students were selected as the study participants by taking into consideration the dropout rate.

The data collection was conducted from 3rd June 2019 to 28th June 2019. The questionnaires collected from the study participants were anonymously coded and used and were disposed of after data analysis. All the study participants were given a small return gift. Of the distributed questionnaires, a total of 193 questionnaires were returned(96.%), and all 193 questionnaires were analyzed as the data for this study.

2.3. Instruments

Self-leadership was analyzed using a tool developed by Kim[16]. This tool was designed as a 5-point Likert scale and consisted of 18 questions and 6 sub-factors. The sub-factors were self-expectation, rehearsal, goal-setting, self-compensation, self-criticism, and constructive thinking, and a higher score meant higher self-leadership. In a study by Kim[16], Cronbach's α was .87, and, in this study, Cronbach's α was .83.

Communication skills was analyzed using the Global Interpersonal Communication Competency Scale(ICC) developed by Rubin & Martin[17] and corrected/supplemented by Heo[18]. This tool was designed as a 5-point Likert scale and consisted of 15 questions, and a higher score meant comprehensively higher interpersonal communication competency. In a study by Heo[18], Cronbach's α was .72, and, in this study, Cronbach's α was .89.

Emotional intelligence was analyzed using the Korean version Wong and Law Emotional Intelligence Scale(K-WLELS) developed by Wong & Law[8] and re-developed and reliability-/validity-confirmed by Jeong[19]. This tool was designed as a 7-point Likert scale and consisted of 16 questions and 4 sub-factors. The sub-factors were self-emotion appraisal(SEA), other's emotion appraisal(OEA), use of emotion(UOE), and regulation of emotion(ROE), and a higher score meant higher emotional intelligence. In a study by Jeong[19], Cronbach's α was .88, and, in this study, Cronbach's α was .88.

Clinical competency was analyzed using a tool developed by Kim, Chae & Choi[2]. It was

designed as a 5-point Likert scale and consisted of 34 questions and 5 sub-factors. The sub-factors were leadership, professional development, nursing skill, communication, and nursing process, and a higher score meant higher clinical competence. In a study by Kim, Chae & Choi[2], Cronbach's α was .96, and, in this study Cronbach's α was .94.

3. Results and Discussion

The general characteristics of the participants were as shown in Table 1. As far as the gender of the participants is concerned, the number of female students was approximately 4 times the number of male students. The average age was 23.11, and 63.7% were non-religious. As far as the motivation for admission is concerned, 36.3% responded 'aptitude', 21.6% responded 'stable job', and 13.7% responded 'as a family proposal'. Satisfaction on major showed a mean value of 3.64 and perceived health state showed a mean value of 3.40. Of the dependent variables, self-leadership showed a mean value of 3.66, communications showed a mean value of 3.92, emotional intelligence showed a mean value of 5.20, and clinical competence showed a mean value of 3.93.

Table 1. General characteristics of participants (N=190)

Characteristics	Categories	N(%) or M \pm SD(Range)
Gender	Male	36(18.9)
	Female	154(81.1)
Age (yr)		23.11 \pm 3.93(20-54)
	23 \geq	146(76.8)
	24 \leq	44(23.2)
Religion	Yes	69(36.3)
	No	121(63.7)
Motivation for admission	Aptitude	69(36.3)
	As a family proposal	26(13.7)
	Stable job	41(21.6)
	According to high school academic performance	10(5.3)
	Job to serve others	19(10.0)

	A good impression for nurses	25(13.2)
Personality	Introspective and passive	86(45.3)
	Outgoing and active	104(54.7)
Satisfaction on major		3.64±0.90(1.00-5.00)
	Very low	4(2.1)
	Low	14(7.4)
	Middle	57(30.0)
	High	86(45.3)
	Very high	29(15.3)
Perceived health state		3.40±0.90(1.00-5.00)
	Very Bad	3(1.6)
	Bad	22(11.6)
	Moderate	85(44.7)
	Good	56(29.5)
	Very good	24(12.6)
Academic performance	2.99≥	167(8.4)
	3.00 ~ 3.49	71(37.4)
	3.50 ~ 3.99	80(42.1)
	4.00≤	23(12.1)
Self-leadership		3.66±0.45(2.61-5.00)
	Self-expectation	3.99±0.65(2.00-5.00)
	Rehearsal	3.63±0.61(1.67-5.00)
	Goal-setting	3.65±0.63(1.67-5.00)
	Self-compensation	3.51±0.74(1.67-5.00)
	Self-criticism	3.60±0.71(1.67-5.00)
	Constructive thinking	3.77±0.67(2.00-5.00)
Communication skills		3.92±0.51(2.33-5.00)
Emotional intelligence		5.20±0.76(3.00-7.00)
	Self-emotion appraisal, SEA	5.51±0.95(3.00-7.00)
	Other's emotion appraisal, OEA	5.61±0.86(2.25-7.00)

	Use of emotion, UOE	4.92±1.14(1.75-7.00)
	Regulation of emotion, ROE	4.77±1.17(1.50-7.00)
Clinical competence		3.93±0.48(2.05-5.00)
	Leadership	3.89±0.52(2.50-5.00)
	Professional development	4.12±0.60(1.60-5.00)
	Nursing skill	3.73±0.65(1.60-5.00)
	Communication	3.94±0.55(2.43-5.00)
	Nursing process	3.99±0.62(1.00-5.00)

The difference in clinical competence by general characteristics of the participants was examined, and the results were as shown in Table 2. Of the general characteristics, gender($t=0.76$ $p=.446$), age($t=0.35$ $p=.725$), religion($t=-0.82$ $p=.411$), motivation for admission($t=0.84$ $p=.523$), personality($t=-1.13$ $p=.171$), satisfaction on major($t=0.59$ $p=.666$), perceived health state($t=1.95$ $p=.103$), and academic performance($t=0.50$ $p=.681$) all showed no clinical competence score difference.

Table 2. Clinical competence by general characteristics of participants (N=190)

Characteristics	Categories	Clinical competence	
		M±SD	t/F(p)
Gender	Female	3.95±0.46	0.76(.446)
	Male	3.88±0.53	
Age (yr)	23≥	3.94±0.50	0.35(.725)
	24≤	3.91±0.38	
Religion	Yes	3.97±0.48	-0.82(.411)
	No	3.91±0.48	
Motivation for admission	Aptitude	3.99±0.43	0.84(.523)
	As a family proposal	4.01±0.51	
	Stable job	3.82±0.52	
	According to high school academic performance	3.92±0.56	

	Job to serve others	3.88±0.43	
	A good impression for nurse	3.95±0.50	
Personality	Introspective and passive	3.88±0.48	-1.13(.171)
	Outgoing and active	3.98±0.47	
Satisfaction on major	Very low	3.86±0.82	0.59(.666)
	Low	3.77±0.40	
	Middle	3.98±0.41	
	High	3.92±0.54	
	Very high	3.98±0.37	
Perceived health state	Very Bad	3.32±0.24	1.95(.103)
	Bad	3.96±0.56	
	Middle	3.89±0.46	
	Good	4.02±0.49	
	Very good	3.94±0.39	
Academic performance	2.99≥	3.89±0.44	0.50(.681)
	3.00 ~ 3.49	3.92±0.52	
	3.50 ~ 3.99	3.92±0.43	
	4.00≤	4.05±0.55	

*p<.05 **p<.01 ***p<.001

The correlation was analyzed and the results were as shown in Table 3. Self-leadership($r=0.51$, $p<.001$), communication skills($r=0.48$, $p<.001$) and emotional intelligence($r=0.41$, $p<.001$) had a positive correlation with clinical competency. Namely, for nursing students, higher self-leadership, higher communication skills and higher emotional intelligence meant a higher competence score.

Table 3. Correlation of clinical competence and possible covariables (N=190)

Variables	Clinical competence	
	r	(p)

Self-leadership	0.51(<.001)***
Communication skills	0.48(<.001)***
Emotional intelligence	0.41(<.001)***

* p<.05 ** p<.01 *** p<.001

Factors influencing clinical competence were analyzed and the results were as shown in Table 4. To confirm the factors having an influence on the clinical competence of the participants, 3 factors of the general characteristics having a correlation with clinical competence were set as independent variables, clinical competence was set as the dependent variable, and a multiple regression analysis was conducted. Initially, whether or not the basic assumption of the regression model is satisfied was confirmed. Based on the multicollinearity test results, since the tolerance among dependent variables was 0.588 - 0.635 and was greater than 0.1 and the variance inflation factor was 1.576 - 1.852 and was not greater than 10, it was confirmed that they were mutually independent. Since the Durbin-Watson value was 1.981 and was close to 2, it was confirmed that it had no residual autocorrelation. The regression model determining the factors having an influence on the clinical competence of nursing students was statistically significant ($F=30.33$, $p<.001$). The factors having a significant influence on clinical competence were self-leadership ($\beta=0.33$) and communication skills ($\beta=0.22$), and the explanation power of the model was 31.8%.

Table 4. Factors influencing clinical competence (N=190)

Variables	Clinical competence		
	β	t	p
Self-leadership	0.33	4.41	<.001***
Communication skills	0.22	2.77	.006*
Emotional intelligence	0.11	1.41	.159
	Adj. R ² =.318, F=30.33, p<.001		
Tolerance	0.588-0.635		
VIF	1.576-1.852		
Durbin Watson	1.981		

* p<.05 ** p<.01 *** p<.001

This study was conducted to confirm the correlation clinical competence shares with the self-leadership and communication skills of nursing students and to identify the factors having an influence on clinical competence, and, thereby, provide the baseline data required to enhance the clinical competence of newly appointed nurses during education.

The self-leadership of the nursing students who participated in this study was confirmed to be 3.66 out of a perfect score of 5. In comparison to a self-leadership score of 3.63 acquired in a study by Dong & Choi[7] that selected senior-year students with clinical practice experience as the study subjects and to a self-leadership score of 3.68 acquired in a study conducted by Seo, Park & Kim[20] that selected junior-/senior-year students as the study subjects, the self-leadership score acquired in this study shared a similar moderate level to those acquired in the two studies described above. However, a score of 3.42 acquired in a study by Lee & Cho[21] that selected sophomore-year students as the study subjects was quite different from the result acquired in this study. It is determined that the reason for this is because students enrolled in higher years voluntarily considers their role-related responsibilities important and voluntarily demonstrate their competence through theory-based practice as they take their major theoretical courses and practice-based classes. Accordingly, this implies that self-leadership plays a big role in performing quality nursing tasks in diverse medical environments experienced in the clinical field.

In this study, communication skills showed a score of 3.92(range: 1-5 points), and such result was similar to a score of 3.81 acquired using the same tool in a study by Yang[1] that selected junior-/senior-year students as the subjects and to a score of 3.66 acquired in a study by Kim[22]. It seems that the reason why communication skills showed an above-moderate-level score is because communication skills are seen as a core competency that professional nurses must develop, because subjects are assigned to allow nursing students to make efforts to enhance their communication skills, and because communication skills are connected to and controlled as intensive learning performance. It is thought that such communication skills not only greatly contribute to building rapport with the subjects in diverse nursing situations, but also are very important for developing an appropriate relationship with clinical field instructors and with peer students and account for a large part of clinical competence. Accordingly, it can be said that practical, situation-based training plans that can be executed to enhance communication skills are also important.

In this study, the emotional intelligence of nursing students showed a mean score of 5.20(range: 1-7 points). Although this score was similar to a score of 5.10 out of a perfect score

of 7 acquired in a study by Song & Chae[23] that selected junior-/senior-year nursing students as the study subjects, it was higher than a score of 4.94(out of a perfect score of 7) acquired in a study by Yu & Lee[24] that selected lower-grade nursing students as the study subjects. The sub-factors of emotional intelligence were listed in the following highest-to-lowest order: other's emotion appraisal(5.61), self-emotion appraisal(5.51), use of emotion(4.92), and regulation of emotion(4.77). Based on such results, it is determined that the reason why self-emotion appraisal and other's emotion appraisal were enhanced is because nursing study is a field of study that is based on self-emotion appraisal and other's emotion appraisal to understand humankind and is a field of study that requires the ability to understand and sympathize with the emotion of others such as patients, family members and nurses[25]. In addition, such result can be interpreted as a result caused by students' higher understanding of their major as they enroll in higher years. However, taking into consideration that emotion appraisal and regulation of emotion showed values lower than those shown by other sub-factors, this implies that it is necessary to develop the ability to not only understand the emotion, but also utilize and control the emotion. Accordingly, to enhance emotional intelligence required to rather take actions suitable for situations than to show behaviors according to one's emotion, it is necessary to make educational efforts to enhance use of emotion and regulation of emotion.

Based on the results acquired in this study, the self-leadership, communication skills and emotional intelligence of nursing students had a positive correlation with clinical competence, and higher self-leadership, higher communication skills and higher emotional intelligence meant higher clinical competence. The positive correlation between self-leadership and clinical competence is a result that supports a study by Dong & Choi[7] that contended that higher self-leadership enhances clinical competence. In addition, the relationship between communication skills and clinical competence shared the same result as a study by Park & Chung[26]. Since communication skills and clinical competence serve as core competencies in terms of nursing tasks and serve as basic competencies that nursing students must develop, diverse situations can be given and utilized during simulation-based courses to enhance communication skills as an important influential factor capable of enhancing clinical competence. In addition, the relationship between emotional intelligence and clinical competence was consistent with the result acquired in a study by Lee & Gu[10] that contended that higher emotional intelligence meant higher clinical competence. This implies that higher emotional intelligence allows problem solving by rather interpreting and controlling the situation than emotionally responding to diverse incidents that may occur while providing nursing in a clinical situation. According. it is important

to enhance emotional intelligence to be able to understand and control one's emotion and other's emotion. It seems possible to enhance emotional intelligence while providing clinical practice instructions by analyzing the situation that may be actually observed, sharing emotions, and providing an opportunity to recognize and utilize one's emotion and other's emotion.

As far as the factors having an influence on the clinical competence of nursing students are concerned, satisfaction with life, self-leadership, communication skills, and emotional intelligence were confirmed to be the significant predictive factors, and showed an explanation power of 31.8%. Of such factors, self-leadership and communication skills were confirmed to be the strongest predictive factors. Different from other careerists, nurses experience diverse situations exposed to stress, and, since nurses are able to voluntarily set objectives suitable for situations and are able to positively synchronize themselves to demonstrate better performance when they effectively demonstrate emotional intelligence in such situations, their clinical competence will be enhanced more and this will contribute to enhancing their job performance. Accordingly, when developing a program to enhance clinical competence, it is necessary to include the education and control processes that enhance self-leadership, communication skills and emotional intelligence for intrinsic competency enhancement, and it is thought that it would be necessary to continuously provide not only nursing students, but also newly appointed nurses and clinical nurses taking their first step into the society with an opportunity for education or training.

4. Conclusion

In this study, the influence on the clinical competence of nursing students was examined, and, based on the results, it was confirmed that self-leadership and communication skills were the factors having a significant influence on clinical competence, and that the explanation power was 31.8%. The results acquired in this study suggest that it is important to include self-leadership and communication skills when developing an education program aimed at enhancing the clinical competence of nursing students. In addition, taking into consideration that higher emotional intelligence may lead to higher clinical competence, it seems necessary to provide a number of opportunities for self-examination through experience-based extracurricular programs just as the involved curriculum includes diverse teaching/learning approaches that allow participants to indirectly experience diverse participant-based nursing situations. Therefore, it is suggested that the results acquired in this study be used as the baseline data to develop and apply an education program aimed at enhancing clinical competence.

5. References

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