

# The Effects of Critical Thinking Disposition, Perception of Others and Empathy on Communication Competency among Students Majoring in Nursing

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## Abstract

**Background/Objectives:** This study seeks to identify correlations among critical thinking, perception of others and communication competency among nursing school students

**Method/Statistical Analysis:** Survey respondents were 1st, 2nd, 3<sup>rd</sup> and 4<sup>th</sup> year students majoring in nursing at three universities of Chung Nam and Chung Buk who understood the objectives of the study and who gave their consent on participation.

**Findings:** The critical thinking of subjects scored 3.27(1~5), their perception of others scored 3.35(1~5), empathy scored 3.15(1~5) and communication skills was 3.34(1~5). Variables affecting respondents' communication competency were critical thinking disposition 27.5% ( $\beta=.42$ ,  $p<.001$ ), peer relationships 7.8% ( $\beta=.27$ ,  $p<.001$ ) and perception of others 6.2% ( $\beta=.27$ ,  $p<.001$ ) with a total explanatory power of 41.5%. The study found out that, among those independent variables, critical thinking disposition has the greatest effect on communication competency.

**Improvements/Applications:** Based on these findings, it seems necessary to develop curriculums and programs that include strategies for smooth communication competency and improved critical thinking among nursing school students.

**Keywords:** Nursing school students, critical thinking, communication competency, empathy, perception of others.

## Introduction

Communication competence is the ability to clearly express one's opinion, or clearly describe one's point of view when the other person's opinion is different from one's own opinion [1]. To nursing school students who have to satisfy nursing demands of

patients in the relationship with patients and people with different professions, it is very important to improve communication competence from college days [2].

Critical thinking is the process where one judges on what to rely on among given contents. As critical thinking ability in nursing process allows nurses to make decisions based on reasons, it is very important in clinical practices [3].

To improve communication competence, the process in which one can correctly perceive the other person and have empathy with the person is needed [4]. The higher one has ability to perceive the other person, the more one can focus on the other person in communication process and the more correctly one can get the information about

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the other person [5]. Consequently, perception of others can be considered as an element affecting communication competence of nursing school students.

Empathy is the ability to see the situation with the view of the other person and communicate by understanding the other person's emotion without criticism [6]. Empathy is the ability to communicate with the other person by accurately expressing the internal meaning of emotion the other person cannot express [7]. In nursing, empathy is an important means to form treatment relations with patients and induce cooperation with persons in other professions and strategy to provide effective nursing [8].

Previous researches have suggested variables related with communication competence among nursing school students as follows: one's opinion [9], self respect [9, 10], emotional intelligence, empathic ability [10, 11], grade [11], stress from clinical training [10], perception of oneself and the other person [12] and critical thinking disposition [2]. But, there are not enough researches examining relationship among critical thinking disposition, perception of others and empathic ability. Accordingly, this research intends to examine critical thinking disposition, perception of others and empathic ability and factors affecting communication competence and provide basic sources to develop strategies to improve communication competence.

## Materials and Method

- 1. Design:** This research is a descriptive survey research to examine the effect of critical thinking disposition, perception of others and empathic capacity on communication competence among nursing school students.
- 2. Subjects:** This research did a survey to students in nursing departments in 3 universities located in Chungcheongnamdo and Chungcheongbukdo. Those students are from freshmen to senior students. They understood the purpose of this research and agreed to participate in this survey. They signed the agreement on participating in this survey and, they filled out structured questionnaire. The size of samples was calculated with the help of G\*Power program. The program demonstrated that the minimum number of respondents needed to do multiple regression analysis using about 7 variables, middle size effect .15, significance level 0.5 and test power .95 is 153. Thus, this research

did survey to 200 respondents and, 197 copies of the questionnaire were used for analysis, excluding 3 copies which were not answered properly.

### 3. Tools:

**Communication Competency:** To measure communication competence, this research used Global Interpersonal Communication Competence (GICC) scale developed by Huh Gyeong-ho [13]. The reliability of the tool when Huh developed the scale was Cronbach's  $\alpha = 72$ . In this research, Cronbach's  $\alpha$  was .85.

**Critical thinking disposition:** To measure critical thinking disposition, this research used the tool developed by Gwon In-soo et al. [13]. The reliability of the tool when they developed the scale was Cronbach's  $\alpha = .89$ . In this research, Cronbach's  $\alpha$  was .88.

**Perception of others:** To measure perception of others, this research used the tool developed by EunHyeok-gi to test perception of others among Korean adolescents [14]. The reliability of the tool when they developed the scale was Cronbach's  $\alpha = .85$  and, in this research, Cronbach's  $\alpha$  was .89.

**Empathy:** To measure empathic capacity, this research used Interpersonal Reactivity Index (IRI) developed by Davis [15] and translated into Korean by Gang Il, et al. The reliability of the tool when Davis developed the scale was Cronbach's  $\alpha = .89$ . In this research, Cronbach's  $\alpha$  was .88.

- 4. Data analysis:** Collected data were analyzed using SPSS 21.0 statistical program. The characteristics of respondents were measured by frequency distributions. Critical thinking disposition, perception of others, empathy and communication competence were analyzed by means and standard deviation. The relationship between general characteristics of nursing school students and their communication skill was analyzed by t-test and ANOVA. Scheffe-test was used for ex-post analysis. The relationships among critical thinking disposition, perception of others and communication competence were analyzed by Pearson's correlation coefficient. To examine variables affecting communication competence of respondents, this study did stepwise multiple regression analysis.

- 5. Ethical Consideration:** To respondents of the survey, this research explained the purpose of the survey and explained that they could stop answering

questions during the survey. The questionnaire was distributed only to students who agreed to and would voluntarily participate in the survey.

**Results and Discussion**

**General characteristics of subjects:** The average age of respondents was 21.7 years old and proportion of females was 82.9%. The distribution of students per school year was as follows: Freshmen 30.0%, seniors 25.2%, sophomores 23.3% and juniors 21.4%. To the

questions on motive of choosing nursing as major, 45.2% of respondents answered that they could find jobs easily after graduation, followed by 31.0% who said that their high school scores allowed them to apply for the nursing department and who said their aptitude fit nursing. In satisfaction with major, 41.9% of them said they were “satisfied” and 34.3% said “So so”. In relationship with friends, 48.1% said they had good relationship and 30.0% said “So so”. (See Table 1.)

**Table 1. General characteristics of respondents**

Characteristics	Classification	N (%)	M±SD
Age			21.73±2.43
Gender	Male	36(17.1)	
	Female	174(82.9)	
Religion	Yes	50(23.8)	
	No	160(76.2)	
Grade	Freshman	63(30.0)	
	Sophomore	49(23.3)	
	Junior	45(21.4)	
	Senior	53(25.2)	
Motive to choose nursing as major	Considering high school scores	9(4.3)	
	Aptitude and hobby fit nursing	65(31.0)	
	Easy to find jobs after graduation	95(45.2)	
	Recommended by parents or teachers	35(16.7)	
	Others	6(2.9)	
Satisfaction with major	Not satisfied at all	6(2.9)	
	Not satisfied	20(9.5)	
	So so	72(34.3)	
	Satisfied	88(41.9)	
	Very satisfied	24(11.4)	
Relationship with riends	Very bad	2(1.0)	
	Bad	2(1.0)	
	So so	6.3(30.0)	
	Good	101(48.1)	
	Very good	42(20.0)	

**Differences in communication competency depending on general Characteristics:** In the relationship between general characteristics of respondents and communication competency, gender (t=-1.75, p=.081), religion (t=-1.208,p=.205), school year (F=.18, p=.905), motive to choose nursing as major (F=1.06, p=.376) did not have any statistically

meaningful differences. But relationship with friends (F=4.58, p=.001) and satisfaction with major (F=2.87, p=.024) did have statistically meaningful differences. Scheffe ex-post test showed that good and very good relationship with friends significantly boosts communication competency (See Table 2.).

**Table 2. Difference in communication competency depending on general Characteristics**

Characteristics	Classification	M±SD	t or F	p
sex	Male	3.23±.42	-1.75	.081
	Female	3.36±.41		
Religion	Yes	3.28±.36	-1.20	.228
	No	3.36±.43		
Grade	Freshman	3.35±.38	.18	.905
	Sophomore	3.35±.39		
	Junior	3.36±.52		
	Senior	3.30±.39		
Relationship with friends	Very bad	3.40±.18	4.58 d,e>c	.001
	Bad	3.20±.28		
	So so	3.16±.31		
	Good	3.42±.37		
	Very good	3.43±.58		
Motive to choose nursing as major	Considering high school scores	3.35±.46	1.06	.376
	Aptitude and hobby fit nursing	3.40±.40		
	Easy to find jobs after graduation	3.29±.42		
	Recommended by parents or teachers	3.35±.43		
	Others	3.55±.30		
Satisfaction with major	Not satisfied at all	3.00±.32	2.87	.024
	Not satisfied	3.19±.35		
	So so	3.31±.39		
	Satisfied	3.39±.42		
	Very satisfied	3.48±.47		

**Correlations among critical thinking disposition, perception of others, empathy and communication competency:** Critical thinking disposition and communication competency are significantly correlated

( $r=.528, p<.001$ ) and empathy and communication competency are significantly correlated ( $r=.416, p<.001$ ) and perception of others and communication competency are significantly correlated ( $r=.452, p<.001$ )[Table 3].

**Table 3. Correlations among critical thinking disposition, perception of others, empathy and communication competency**

	Critical thinking disposition	Percept-ion of others	Empathy	Communi-cation Compete-ncy
Critical thinking disposition	1			
Perception of others	.394** (<.001)	1		
Empathy	.571** (<.001)	.478** (<.001)	1	
Communicat-ion Competency	.528** (<.001)	.452** (<.001)	.416** (<.001)	1

**Variables affecting communication competency:** To examine relative influences of critical thinking disposition, perception of others and empathy on communication competency, this research did multiple

regression analysis using 5 independent variables: 2 general characteristics variables which were found to be statistically significant—relationship with friends and satisfaction with major - and above 3 variables

- critical thinking disposition, perception of others and empathy. The analysis showed that the following three variables had 41.5% explanatory power in total: critical thinking disposition 27.5% ( $\beta=.421, p<.001$ ), relationship with friends 7.8% ( $\beta=.272, p<.001$ ) and perception of others 6.2% ( $\beta=.276, p<.001$ ).

Before conducting multiple regression analysis,

this research did multicollinearity test and found that tolerance limits are .843~.998, above 0.1 and Variance Inflation Factor, (VIF) was 1.002~1.186, below 10. Thus, multicollinearity was not the problem. And independency of standard residuals test showed that Durbin-Watson statistics was 2.057, near 2. Thus, there was no problem [Table 4].

**Table 4. Variables affecting communication competency**

Variable	B	$\beta$	SE	t	p	Adj R2	F	p
Constant	.560		2.45	2.28	.024		50.38	<.001
Critical thinking Dispositi-on	.573	.421	.078	7.30	<.001	27.5		
Relationship with friends	.245	.272	.048	5.14	<.001	35.3		
Perception of others	.221	.276	.046	4.78	<.001	41.5		

## Discussion

This research intended to examine critical thinking disposition, perception of others and empathy and variables affecting communication competency among nursing school students and provide basic sources for making and implementing educational programs in the future.

Among general characteristics of respondents, relationship with friends and satisfaction with major make significant differences in communication competency. In the relationship between relationship with friends and communication competency, 'good' and 'very good' relations with friends improve communication competency of respondents compared with 'so so' relations with friends. It means that good relations with friends have positive effect on communication competency. In the same context, satisfaction with major boosts communication competency. Such findings are consistent with findings of Lee & Chung [16], Kwak et al. [10] and Ji [8]. The results seem to be caused by the facts that positive perception on major affects attitudes on professional jobs as well as knowledge area through theoretical education and training education.

There were positive correlations among critical thinking disposition, perception of others, empathy and communication competency. It supports the findings of other researches that the higher critical thinking disposition is [16, 17], the higher empathy is [10, 18], the higher perception of others is [12, 19, 20], the higher communication competency is. Communication

competency is an essential capacity nurses should be equipped with and the basic capacity nursing school students should be equipped with. As it will ultimately improve clinical performance ability of nurses, it is necessary to cultivate communication competency through various learning method in the courses related with communication in the curriculum.

As variables predicting communication competency, critical thinking disposition, relationship with friends and perception of others had explanatory power of 41.5%. While Kwak et al. [10], Jeong et al. [18] found out that empathy affects communication competency, this research did not find such a relationship between the two variables. In the previous research, critical thinking disposition affects communication competency and lets nurses make decisions focusing on foundation basis [21].

If critical thinking disposition is internal to individuals, it is necessary to lead nurses to take care of patients by suggesting rational and reasonable knowledge as basis toward examining the problem of the objects more specifically and minimizing conflicts with the objects [17]. Considering that improvement of critical thinking disposition is the basic premise to improve communication competency, a core capacity of nurses, it is very important to make efforts to cultivate such capacity in nursing education [16]. Consequently, it is necessary to change educational environment or teaching method of nursing education toward improvement of critical thinking disposition [21].

Good relationship with friends was shown to improve communication competency. As there is no previous research dealing with the relationship between the two variables, repetitive researches on it are required. Perception of others means to pay attention to attitudes, action, or feature of others and think of internal thinking and emotion of others [20]. Perception of others is an important element of communication competency. The more attentive one is to others, the higher one is likely to communicate well with others [22]. It seems necessary to do continuous researches on communication competency in the future.

### Conclusion

This research is a descriptive survey research to examine the effects of critical thinking disposition, perception of others and empathy on communication competency among nursing school students. The analysis found out that those variables like critical thinking disposition, relationship with friends and perception of others have effects on communication competency. This research is significant in that it suggests a direction in educational programs and implementation of them on communication competency. The findings of this research can be used as basic sources in searching for effective learning strategies to cultivate communication competency and apply and evaluate them. Based on such findings, this research suggests that we need researches on concrete practical ways to improve communication competency among nursing school students.

**Ethical Clearance:** Not required

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**Conflict of Interest:** Nil

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