

# Critical Thinking Disposition, Self-Efficacy, and Stress of Korean Nursing Students

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## Abstract

The purpose of this study was to investigate the relationship among critical thinking disposition, self-efficacy, and stress of Korean nursing students. Participants of this study were 208 nursing students of 3 nursing colleges in South Korea. The level of critical thinking disposition, self-efficacy and stress were measured by Korean version of Critical Thinking Disposition Scale, General Self-Efficacy Scale and Brief Encounter Psychosocial Instrument (BEPSI). The mean scores of critical thinking disposition, self-efficacy and stress were 117.08, 57.12, 2.46, respectively. Critical thinking disposition showed significant relationships with self-efficacy ( $r=.344$ ,  $p<.001$ ) and stress ( $r=-.207$ ,  $p=.003$ ). And Self-efficacy had significant correlation with stress level ( $r=-.450$ ,  $p<.001$ ). According to the results of this study, self-efficacy had positive relationship with critical thinking disposition, and stress had negative relationships with critical thinking disposition and self-efficacy. Thus educators and faculties of nursing colleges should manage stress and self-efficacy to improve the abilities of critical thinking of nursing students.

**Keywords:** Critical Thinking, Self-Efficacy, Stress

## 1. Introduction

Nurses care patients who have diverse symptoms that changed in various clinical settings. Thus the abilities to detect the changes of patients' status and to apply proper interventions are highly required to nurses. Nurses with good critical thinking ability can think independently and carefully assess the importance of information throughout the whole nursing process<sup>3</sup>.

The definition of critical thinking varies. But American Philosophical Association defined "critical thinking is purposeful, self-regulatory judgement which results in interpretation, analysis, evaluation and inference as well as explanation of the evidential conceptual, methodological, criteriological or contextual considerations upon which that judgement was based. The ideal critical thinker is habitually inquisitive, well informed, trustful of reason, open-minded, flexible, fair minded in evaluation, honest

in facing personal biases, prudent in making judgements, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit<sup>1</sup>."

And the National League for Nursing Accrediting Commission (NLNAC) require the concept of critical thinking be included as one of the core elements of curriculum and that it be measured as an outcome when evaluating nursing education<sup>7</sup>. Due to promoting critical thinking disposition is very important concept among nursing educators.

Bandura introduced self-efficacy in social cognitive theory; and, according to the theory, perceived self-efficacy is defined as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives"<sup>2</sup>.

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In previous studies, critical thinking is related with self-efficacy and stress. Critical thinking has positive relationship with clinical nursing competency and self-efficacy<sup>9</sup> and self-efficacy has negative relationship with stress<sup>4</sup>.

Critical thinking ability had a significantly positive correlation with nursing competence<sup>3</sup>. Thus it is important to investigate other factors which could affect the critical thinking disposition. Therefore the purpose of this study was to identify the level of critical thinking disposition, self-efficacy and stress of Korean nursing students and to investigate the relationship among critical thinking disposition, self-efficacy and stress for nursing education.

## 2. Methodology

### 2.1 Participants and Data Collection

The participants of this study were 208 nursing students of 3 nursing colleges (Baekseok Univ., Korea Nazarene Univ., and Cheongju Univ.) in South Korea. Data were collected using a self-reported questionnaire. Participants were assured of anonymity and confidentiality and informed consent was obtained from each subjects.

### 2.2 Study Design

The cross-sectional descriptive design was used to examine relationships among critical thinking disposition, self-efficacy and stress among Korean nursing students.

### 2.3 Measures

The level of critical thinking disposition, self-efficacy and stress were measured by Korean version of Critical Thinking Disposition Scale for Nursing Students, General Self-Efficacy Scale and Brief Encounter Psychosocial Instrument (BEPSI-K).

The Critical Thinking Disposition Scale for Nursing Students<sup>5</sup> consisted of 35 items with 5 point scale and higher score means higher level of critical thinking disposition. The reliability of this scale was Cronbach's alpha.89 in this study.

The General Self-Efficacy Scale<sup>10</sup> consisted of 17 items with 5 point scale and showed good reliability (.88). And higher score means higher level of self-efficacy.

Korean version of Brief Encounter Psychosocial Instrument (BEPSI-K)<sup>11</sup> consisted of 5 items to measure

level of stress and showed reliability of .78. The higher score means higher level of stress.

## 2.4 Data Analysis

SPSS version 18.0 program was used for data analysis. Data were analyzed by t-test and ANOVA to test differences of the level of critical thinking disposition, self-efficacy and stress by demographic characteristics. And Correlation analysis was used to study statistical relationships among the study variables.

## 3. Findings

### 3.1 General Characteristics

Of the participants, 92.3% were female and the mean age was 20.50±1.25. Freshman was 13.0%, sophomore was 35.1%, junior was 32.7 and senior was 19.2%. About 65% reported B grade of GPA and 23.6% was A. About 65% of the participants were reported they satisfied the nursing major and 10.1% dissatisfied their major.

### 3.2 Critical Thinking Disposition, Self-Efficacy, and Stress

Mean score of critical thinking disposition, self-efficacy and stress were 117.08±10.09, 57.12±9.02, and 2.46±.69 respectively.

There was significant difference in critical thinking disposition by GPA ( $F=13.37, p<.001$ ). In post-hoc test, participants who got A grade showed significant higher level of critical thinking disposition than who got B grade.

There were significant differences in self-efficacy by gender ( $F=4.12, p=.044$ ), GPA ( $F=9.85, p<.001$ ), and satisfaction about major ( $F=8.342, p<.001$ ). In this study, female nursing students showed significant higher self-efficacy than male students. Participants who got A grade showed higher level of self-efficacy than who got B and C grade and who satisfied about nursing major showed higher level of self-efficacy than who reported moderate satisfaction and dissatisfaction about major.

Also there were significant differences in stress by school year ( $F=2.86, p=.038$ ) and satisfaction about major ( $F=7.53, p=.001$ ). Participants who reported moderate satisfaction and dissatisfaction about major showed significant higher level of stress than who reported satisfaction about nursing major. But school year showed no significant differences in post-hoc test.

And critical thinking disposition had significant relationships with self-efficacy ( $r=.344$ ,  $p<.001$ ) and stress ( $r=-.207$ ,  $p=.003$ ). And Self-efficacy had significant correlation with stress level ( $r=-.450$ ,  $p<.001$ ).

## 4. Conclusion

The aim of this study was to identify the level of critical thinking disposition, self-efficacy and stress of Korean nursing students and to investigate the relationship among critical thinking disposition, self-efficacy and stress for nursing education.

The findings of this study showed that the critical thinking disposition of Korean nursing students was 117.08. Park and Kim reported the critical thinking disposition of Korean nurses was 117.9<sup>8</sup>. The level of critical thinking disposition of the participants was generally at an above-middle level and the finding was similar to those of nurses. In previous study, critical thinking disposition and clinical competence showed statistically

significant relationship and nurses with a higher level of critical thinking disposition showed a higher level of clinical competence. Therefore to enhance the clinical competence as a nurse, the development of critical thinking ability should be emphasized at the nursing school.

According to the results of this study, there was significant difference in critical thinking disposition by GPA. Participants who got A grade showed significant higher level of critical thinking disposition than who got B grade. This result is consistent with previous studies of Kim, Park and Choi<sup>6</sup>. In that study, students who got high level of academic achievement also showed high level of critical thinking disposition.

There were significant differences in self-efficacy by gender, GPA and satisfaction about major. In this study, female nursing students showed significant higher self-efficacy than male students. Participants who got A grade showed higher level of self-efficacy than who got B and C grade and who satisfied about nursing major showed higher level of self-efficacy than who reported moderate satisfaction and dissatisfaction about major. Also there were significant differences in stress by school year and satisfaction about major. Participants who reported moderate satisfaction and dissatisfaction about major showed significant higher level of stress than who reported satisfaction about nursing major. But school year showed no significant differences in post-hoc test.

The findings of this study revealed the students who are not satisfied about nursing major and got low GPA showed low level of self-efficacy and high level of stress. Therefore nursing educators and faculties should be concern about those students to develop their nursing competency.

In this study self-efficacy had positive relationship with critical thinking disposition. And stress had negative relationships with critical thinking disposition and self-efficacy. Park et al<sup>9</sup> also reported critical thinking disposition had significant relationship with self-efficacy, leadership and nursing competency. Nurses with good critical thinking ability can deliberate independently and carefully assess the importance of information throughout the entire nursing process<sup>3</sup>. Thus the critical thinking ability should be emphasized to nursing students to increase nursing competency. Furthermore educators and faculties of nursing colleges should manage self-efficacy and stress to improve the abilities of critical thinking of nursing students.

**Table 1.** General Characteristics of the Participants (N=208)

Category		n(%)	M±SD
Gender	Male	16(7.7)	20.50±1.25
	Female	192(92.3)	
Age			20.50±1.25
Grade	Freshman	27(13.0)	
	Sophomore	73(35.1)	
	Junior	68(32.7)	
	Senior	40(19.2)	
GPA	A	49(23.6)	
	B	134(64.4)	
	C	25(12.0)	
Satisfaction about major	Satisfied	134(64.4)	
	Moderate	53(25.5)	
	Dissatisfied	21(10.1)	

**Table 2.** Level of Critical Thinking Disposition, Self-Efficacy and Stress of Nursing Students

Category	Possible Range	Observed Range	M±SD
Critical thinking disposition	35-175	83-153	117.08±10.09
Self-efficacy	17-85	28-85	57.12±9.02
Stress	1-5	1-4.4	2.46±.69

**Table 3.** The Differences of Critical Thinking Disposition, Self-Efficacy and Stress by the General Characteristics

Variable	Category		M±SD	t/F(p)
Critical thinking disposition	Gender	Male	120.87±11.73	2.46(.118)
		Female	116.76±9.90	
	Grade	Freshman	116.62±11.85	2.58(.054)
		Sophomore	118.82±8.64	
		Junior	114.50±9.55	
		Senior	118.60±11.47	
	GPA†	Aa a>b	123.06±8.91	13.37(<.001)
		Bb	114.83±9.72	
		Cc	117.40±9.66	
	Satisfaction about major	Satisfied	118.10±10.34	2.20(.113)
Moderate		114.71±8.86		
Dissatisfied		116.52±10.71		
Self-efficacy	Gender	Male	52.75±9.28	4.12(.044)
		Female	57.48±8.93	
	Grade	Freshman	59.00±8.86	1.31(.270)
		Sophomore	56.64±8.29	
		Junior	55.91±8.48	
		Senior	58.80±10.99	
	GPA†	Aa a>b	61.41±9.02	9.85(<.001)
		Bb a>c	56.43±7.81	
		Cc	52.52±11.81	
	Satisfaction about major†	Satisfiedac>a	58.93±8.67	8.342(<.001)
Moderatebb>a		54.24±9.08		
Dissatisfiedc		52.81±8.00		
Stress	Gender	Male	2.57±.74	.44(.507)
		Female	2.45±.69	
	Grade†	Freshmana	2.20±.73	2.86(.038)
		Sophomoreb	2.42±.55	
		Juniorc	2.63±.74	
		Seniord	2.42±.76	
	GPA	A	2.32±.71	1.43(.242)
		B	2.49±.64	
		C	2.56±.91	
	Satisfaction about major†	Satisfiedaa>b	2.33±.65	7.53(.001)
Moderateba>c		2.62±.73		
Dissatisfiedc		2.86±.62		

†Scheffe test

**Table 4.** Relationship among Critical Thinking Disposition, Self-efficacy and Stress

Variables	Critical thinking disposition	Self-efficacy	Stress
Critical thinking disposition	1	.344 (<.001)	-.207 (.003)
Self-efficacy		1	-.450 (<.001)
Stress			1

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