Effect of Nursing Students' Emotional Intelligence on Gratitude Disposition

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ABSTRACT

Background/Objectives: This study was a descriptive research study to confirm the effect of emotional intelligence on gratitude disposition targeting nursing students.

Methods/Statistical analysis: After providing voluntary written consent, the data were collected from September 6 to September 19, 2021, using self-reported questionnaires from 188 students in the first to fourth years of nursing education at two universities. The collected data were analyzed using descriptive statistics, t-test, ANOVA, Pearson's correlation coefficients, and multiple linear regression using the SPSS/WIN 25.0 program.

Findings: Emotional intelligence showed a statistically significant positive (+) correlation with gratitude disposition (r=.450, $p<.001$). In the regression analysis of gratitude disposition, emotional intelligence (β=.44, $p<.001$) was statistically significant (F=15.97, $p<.001$), and the explanatory power was 19.4%.

Improvements/Applications: It is necessary to course open a class subjects, and develop and apply extra-curricular programs to increase the emotional intelligence of nursing students.

*Keywords:*Nursing Student; Emotional Intelligence; Gratitude Disposition

1. Introduction

With the development of medical technology and changes in the medical delivery system according to social changes, the nursing needs of patients are increasing, and accurate nursing service provided through trust and confidence is required. Because nurses provide continuous and direct care to patients, they have the most contact time [1]. Therefore, effective interaction with the patient is very important in providing care. Nurses need emotional intelligence to understand patients in various situations that occur while delivering nursing care and to better control their emotions.

Emotional intelligence is the ability to not only understand one's own emotions but also to understand the emotional recognition of others and use one's emotions as appropriate actions

according to the situation [2]. The empathy of nurses toward their patients is essential and helps to understand their point of view, as well as build a deeper trust with the patient [3]. Therefore, even nursing students are required to understand their own and others' emotions, true empathy, and emotional intelligence capable of controlling and utilizing their emotions [4]. Emotional intelligence is a positive emotional disposition within human psychology and plays an important role in understanding the connections and relationships required in human-centered nursing [5]. This can be increased through education or training [6]. Nursing students should form close and supportive human relationships for the health and well-being of the patient as future professional nursing personnel and should have an understanding of the emotions of others through interaction [7]. Thus, it is necessary to increase emotional intelligence[8]. People with high emotional intelligence are said to have good interpersonal relationships because they communicate well, experience less stress and exhaustion and are more likely to be recognized as essential people in the medical service field because of their excellent work skills [9]. A significant relationship between organizational commitment and organizational performance was also reported [10].

Gratitude disposition is said to be the generalized tendency of cognitive-emotional responses to recognize and appreciate others' contributions from positive experiences acquired by oneself. It is known that the higher the level, the less stress is experienced and it is known as a positive factor that can prevent mental health problems such as depression and anxiety [11]. Rather than avoiding problems when faced with difficult situations, these characteristics are useful for self-growth by finding and reinterpreting positive meanings in stressful situations and utilizing internal resources [12]. People with high gratitude tendencies experience fewer psychological problems, find positive meaning in stressful events, reevaluate them, and take active measures to respond to them as factors leading to personal and organizational growth [13, 14]. In addition, these people showed high self-satisfaction with life, flexible interpersonal relationships, and prosocial behavior [15]. Therefore, it can be said that gratitude disposition is a driving force of positive energy and is important for professional nurses to form therapeutic relationships with their patients [16].

As discussed above, the emotional intelligence of nursing students is thought to have an effect on gratitude disposition. Therefore, in this study, the effect of emotional intelligence on gratitude disposition was evaluated. In the future, as a professional nurse in the future, it is intended to be used as a basic data to have the proper personality and qualifications to provide patient care.

2. Methods

2.1. Instruments

2.1.1. Emotional Intelligence

The emotional intelligence measurement tool (Wong and Law Emotional Intelligence Scale; WLEIS) developed by Wong and Law [17] was used. Jeonget al. [18] used a tool that was

modified and translated into Korean for nursing students. The emotional intelligence tool consists of 16 items, including 4 items on self-emotion appraisal, 4 items on other's emotion appraisal, 4 items on the regulation of emotion, and 4 items on the use of emotion. This tool is scored on a 7-point Likert scale, with higher scores indicating higher emotional intelligence. At the time of tool development, Cronbach's α was 0.87, and in this study, Cronbach's α was 0.89.

2.1.2. Gratitude Disposition

The Gratitude Questionnaire (GQ-6) developed by McCullough et al. [15] was used in the Korean version of the Gratitude Disposition Scale, which was revised by Kwonet al. [19]. It consists of a total of 6 items, graded on a 7-point Likert scale, where a higher score means a higher gratitude disposition. In the study by Kwonet al. [19], reliability was demonstrated by a Cronbach's α of 0.85, and Cronbach's α was 0.86 in this study.

2.2. Sample and data collection

Data were collected through convenience sampling after explaining the research purpose to nursing college students at 2 universities and obtaining consent. Data were collected from 190 students, but 188 were used for the data analysis, excluding 2 who answered unfaithfully. The data were collected from September 6 to 19, 2021.

2.3. Data analysis

The collected data were analyzed using the SPSS/WIN 25.0 program as follows.
1) The general characteristics of the subjects were calculated as frequency, percentage, mean and standard deviation.
2) The emotional intelligence and gratitude disposition of the subjects was calculated as the mean and standard deviation.
3) To analyze the difference between emotional intelligence and gratitude disposition according to the general characteristics of the subjects , t-test and ANOVA were performed . A Scheffé test was conducted as a post-hoc test.
4) The correlation between the emotional intelligence and gratitude disposition of the subjects was analyzed using Pearson's correlation coefficient.
5) The effect of emotional intelligence on gratitude disposition was analyzed using multiple linear regression.

3. Results

3.1. General characteristics

The average age of the nursing students was 22.60 years, with 153 (81.4%) of those under 23 years old. There were 151 female students (80.3%), and the third yearhad the most students with 55 (29.3%). Most of the respondents did not report having a religious affiliation 118 (62.7%), and 126 (67.0%) had an academic score of 3.0-3.9[Table 1].

Table 1. General Characteristics of the Participants (*N*=188)

Characteristics	Categories	N (%) or M±SD
Age (year)		22.60±3.10
	≤23	153 (81.4)
	≥24	35 (18.6)
Gender	Male	37 (19.7)
	Female	151 (80.3)
Grade	1st	43 (22.9)
	2nd	41 (21.8)
	3rd	55 (29.3)
	4th	49 (26.1)
Religion	Christianity	36 (19.1)
	Catholicism	25 (13.3)
	Buddhism	9 (4.8)
	None	118 (62.7)
Academic score	2.0-2.9	31 (16.5)
	3.0-3.9	126 (67.0)
	≥4.0	31 (16.5)

3.2. Level of emotional intelligence and gratitude disposition

The emotional intelligence of the subjects in this study showed an average score of 5.24±0.80 out of 7 points. The sub-area of self-emotion appraisal was the highest, and the regulation of emotion was the lowest. Gratitude disposition had an average score of 5.53±1.05 out of 7 [Table 2].

Table 2. Degree of Emotional Intelligence and Gratitude Disposition (*N*=188)

Variables	Number of items	Possible score range	Min	Max	M±SD
Emotional intelligence	16	1-7	2.81	7.00	5.24±0.80
Self-emotion appraisal	4	1-7	2.00	7.00	5.50±1.05
Other's emotion appraisal	4	1-7	2.25	7.00	5.49±1.00
Regulation of emotion	4	1-7	1.25	7.00	4.92±1.22
Use of emotion	4	1-7	1.20	7.00	5.06±1.12
Gratitude disposition	6	1-7	2.67	7.00	5.53±1.05

3.3. Differences in emotional intelligence and gratitude disposition according to general characteristics

Emotional intelligence showed a significant difference according to academic scores, and as a result of post-hoc analysis, academic scores of 3.0 to 3.9 and 4.0 or higher were statistically significantly higher than scores of 2.0 to 2.9 (F=10.28, *p*<.001). Gratitude disposition showed a significant difference according to academic scores, and as a result of the post-hoc analysis, a score of 4.0 or higher was statistically significantly higher than scores of 2.0 to 2.9 (F=3.41, *p*=.035) [Table 3].

Table 3. Differences in Emotional Intelligence and Gratitude Disposition Characteristics of the Participants (*N*=188)

Characteristics	Categories	Emotional intelligence		Gratitude disposition	
		M±SD	t or F (*p*) Scheffé	M±SD	t or F (*p*) Scheffé
Age (year)	≤23	5.29±0.77	1.63 (.105)	4.57±0.58	.615 (.186)
	≥24	5.04±0.88		4.50±0.74	
Gender	Male	5.01±0.85	-1.97 (.050)	5.43±1.15	-.665 (.507)
	Female	5.30±0.78		5.56±1.03	
Grade	1st	5.42±0.67	2.10 (.101)	5.69±0.90	0.497 (.685)
	2nd	5.10±0.84		5.56±1.03	
	3rd	5.10±0.86		5.44±1.15	
	4th	5.36±0.80		5.47±1.09	
Religion	Christianity	5.37±0.66	3.18 (.025)	5.82±0.84	1.30 (.274)
	Catholicism	4.86±0.72		5.36±1.05	
	Buddhism	4.90±1.11		5.35±1.16	
	None	5.31±0.81		5.49±1.09	
Academic score	2.0-2.9[a]	4.74±0.91	10.28 (<.001) a < b, c	5.10±1.11	3.41 (.035) a < c
	3.0-3.9[b]	5.28±0.77		5.59±1.08	
	≥4.0[c]	5.60±0.51		5.73±0.76	

3.4. Correlation between emotional intelligence and gratitude disposition

Emotional intelligence and gratitude disposition showed a statistically significant positive (+) correlation (r=.450, *p*<.001) [Table 4].

Table 4. Correlation between Emotional Intelligence and Gratitude Disposition (*N*=188)

Variables	Emotional intelligence	Gratitude disposition

	r (p)	r (p)
Emotional intelligence	1	
Gratitude disposition	.450 (<.001)	1

3.5. Effect of emotional intelligence on gratitude disposition

Enter-type multiple linear regression analysis was performed to identify the factors that affected the emotional intelligence of nursing students regarding gratitude disposition. In the audit tendency regression analysis model, the emotional intelligence of the subject whose correlation was confirmed and the academic score of the subject were input as dummy independent variables. The Durbin-Watson statistic of the regression model of gratitude propensity was 2.01, which was close to 2, indicating that there was no autocorrelation. The tolerance limit ranged from 0.54 to 0.90, which was more than 0.1, and the variance inflation factor (VIF) ranged from 1.11 to 1.85, which does not exceed the threshold of 10. There was no multicollinearity problem. In the regression analysis model of emotional intelligence, the academic score of each subject whose correlation was confirmed was input as a corrected independent variable, and emotional intelligence was statistically significant (F=15.97, p<.001). The explanatory power of gratitude disposition was found to be 19.4% [Table 5].

Table 5. Effect of Emotional Intelligence on Gratitude Disposition (N=188)

Dependent variables	Independent variables	B	SE	β	t	p
Gratitude disposition	(Constant)	2.38	.464		9.73	<.001
	Emotional intelligence	.57	.091	.44	4.30	<.001
	Academic score	.18	.195	.08	0.91	.363
R^2=.207, Adj. R^2=.194, F=15.97, p<.001						

4. Discussions

This study attempted to provide basic data for nursing education strategies by confirming the effect of emotional intelligence on the gratitude disposition in nursing students.

In this study, the nursing students scored 5.24 out of 7 points for emotional intelligence. The nursing students in a study by Won and Choi [20], which used the same tool, scored 5.16, those in a study by Oh and Kim[21] scored 4.93, and those in a study by Park and Shin [22] scored 5.01. Thus, emotional intelligence was found to be above average. Emotional intelligence helps us to respond positively in various situations and respond in a desirable way even in stressful

situations[23]. Since this can be improved through education [24], an educational strategy to enhance emotional intelligence is required. Self-emotional appraisal was the highest in the lower domain, and regulation of emotional was the lowest. The study results of Park and Shin [22] were also consistent with the results of this study. Self-emotion appraisal was found to be high because everyone can understand their emotions best, and the reason why regulation of emotion is the lowest is that the understanding of emotions occurs through personal experiences in various specific situations [25]. The findings may indicate that nursing students still lack the ability to control negative emotions according to the situation and convert them into positive ones. Therefore, it is necessary to develop this through the formation of human relationships with many people during college life.

Gratitude disposition in the nurses showed a score of 5.53 out of 7 points. Previous studies [16, 23] using the same tool showed similar results of 5.46 and 5.30 points. Gratitude disposition is an important characteristic in providing human-centered nursing, and it is considered as one of the very important competencies that future nurses should have so that they can feel grateful for their own life and perceive it positively. People with high gratitude disposition to be positive and considerate of others [24], and were found to have better control over negative emotions such as depression, anxiety, and stress [25]. Therefore, measures and strategies are needed to increase the gratitude disposition.

The analysis of the differences in emotional intelligence and gratitude disposition in the general characteristics of the nursing student subjects showed that there were statistically significant differences according to academic score. As a result of the post-hoc analysis, emotional intelligence showed a difference as academic score increased. The study results of Ko [26] are consistent with the results of this study and showed that emotional intelligence was high when academic score were high. In addition, it is consistent with the results of previous studies [27], which showed that the higher the emotional intelligence, the higher the level of achievement because students think more broadly about the areas of interest and actively pursue them. Students with high learning ability and good grades are considered to have high emotional intelligence because nursing college education necessarily combines emotional skills such as responsibility, impulse control, consideration, and love along with major-related knowledge.

The results of this study showed a significant positive correlation between the emotional intelligence and gratitude disposition of nursing students. This means that the higher the emotional intelligence, the higher the tendency to be grateful. This is consistent with the research results ofWon and Choi [20] targeting nursing students. The results indicated that if you can understand your own emotional state and properly control it, you can read and empathize with the emotions of others, and maintain a more stable life. In addition, it will be possible to increase the cognition of feeling grateful and gratitude disposition, which is a stable emotional response. Emotional intelligence can be improved through training or education [28], so it is necessary to develop and introduce an active educational program to improve emotional intelligence in the

nursing education environment.

Emotional intelligence was identified as a factor influencing the gratitude disposition of nursing students. These results are difficult to compare due to insufficient previous studies but are partially consistent with the research results of Won and Choi [20]. In addition, they support the results of previous studies[29] showing that the higher the emotional intelligence, the better the feeling or expression of gratitude. In particular, the reason that emotional intelligence has a positive effect on gratitude disposition is that one of the basic components of emotional intelligence is emotional transfer [30]. Gratitude can be said to be an empathic emotion [31] based on the transfer of these emotions. In other words, the effect of emotional intelligence on gratitude can be explained based on the concept of emotional transfer [29].

Nursing students need to improve their emotional intelligence because it is important to understand their own emotions and empathize with the emotions of others to form an amicable interpersonal relationship with the patient. In addition, since gratitude disposition promotes psychological well-being, life satisfaction, happiness, and pro-social behavior [32], it is a requirement for professional nurses. Therefore, it is necessary to actively develop and support subjects and extra-curricular activities that can enhance emotional intelligence and gratitude disposition through the nursing college curriculum.

This study is significant in that it confirmed that the emotional intelligence of nursing students affected their gratitude disposition. As a limitation of this study, it is somewhat difficult to generalize the results given that some universities were targeted. Also, since it was conducted as a self-reported questionnaire, it has limitations in estimating causality.

5. Conclusion

This study was conducted to provide basic data to understand the effects of the emotional intelligence of nursing students on gratitude disposition and prepare a plan to improve emotional intelligence.

The results of this study confirmed that the emotional intelligence of nursing students had a significant effect on gratitude disposition. Therefore, it is necessary to develop teaching methods, course open a class subjects, and extra-curricular programs to increase the emotional intelligence of nursing students. In the future, a program should be developed to increase emotional intelligence through various repeated studies and verify the effect through the application of the program.

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