

## Enhancing caring efficacy: The role of empathy (E) and caring needs in Nursing education

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**Abstract:** This study aimed to provide foundational insights for enhancing nursing students' caregiving effectiveness by exploring associations among caregiving needs, empathy (E), and caregiving efficacy. Data from nursing students in a Korean province were analyzed. Descriptive statistics, t-tests, and ANOVA were used. Pearson's correlation assessed variable relationships. Mediation regression analyzed caregiving needs, empathy (E), and efficacy using the Baron and Kenny (1986) three-step approach. Caregiving efficacy was significantly associated with factors like motivation, academic grades, volunteer work, health, relationships, and major satisfaction. Empathy (E) showed a partial mediating effect between caregiving needs and efficacy. Acknowledging the influence of empathy (E) alongside caregiving needs is crucial for improving nursing students' caregiving effectiveness. Collaborative efforts are needed to create a conducive learning environment for acquiring and refining caregiving skills, enhancing efficacy.

**Keywords:** Nursing students, Health needs, Sympathy, Caring Effectiveness, Nursing Education.

### 1. Introduction

Care represents a fundamental and indispensable concept within the realm of nursing, recognized as a foundational element of the profession [1]. Nursing students must enhance their efficacy in providing care through patient interactions and the practical application of nursing processes during their educational journey. Moreover, enhancing CE as a crucial nursing competency among students necessitates a holistic approach that considers emotional support, socio-psychological well-being, and the delivery of educational content [2]. Caregiving efficacy encompasses individual competence and socio-psychological health at the personal level, as well as social support and educational factors at the environmental level. The confidence of nursing students in their ability to offer care to patients, known as CE, is significantly associated with emotional intelligence and interpersonal skills [3]. Factors such as subjective health status, living standards impacting physical and mental well-being, satisfaction with the chosen field of study, clinical practice experiences, and relationships with instructors and professors all contribute to the level of CE. Building a sense of CE is intricately linked to emotional empathy, fostering a relationship with patients during clinical practice, and cultivating a sense of confidence in providing care [4]. Throughout their nursing education, students encounter various stressors during clinical practice, including fear and anxiety, unfamiliar environments, heavy workloads, role ambiguity, theory-practice gaps, and interpersonal challenges with patients and caregiver [5, 6]. The stress levels experienced by nursing students surpass those of their peers in other academic disciplines, and unaddressed stress can lead to fear, diminished confidence, and skepticism towards pursuing a career in nursing, ultimately impacting performance outcomes [7-9]. The requirement for care entails a specific

appeal for interpersonal care grounded in affection and concern, acknowledging the emotions of others to avert emotional turmoil, mend emotional wounds, and nurture relationships. It denotes the desired support from others for personal advancement [10]. Individuals receiving interpersonal care exhibit contentment with their care requisites, bolster their self-worth, uphold a state of well-being, and enhance their quality of life. Care providers proficient in delivering care should prioritize others' needs over their own, fostering empathetic connections with patients to fulfill the role of exemplary care providers as perceived by themselves or by patients and acquaintances [11]. Instances of incivility encountered during clinical practice by nursing students are found to impact care effectiveness [12]. Nursing students, undergoing the process of cultivating nursing professionalism, might have their care efficiency influenced by the various care demands and attributes encountered in clinical settings. It is imperative to enhance their sense of care efficiency through safeguarding against adverse influences from parents, guardians, and supervising nurses, and by enabling the fulfilment of care requisites under the guidance of nursing educators. Reports indicate that within the academic journey of nursing students and educators, students benefiting from attention, support, information, and acknowledgement from educators exhibit a positive transformation [13] with the nurturing of caring experiences enhancing their confidence as future nurses. This transformation positively influences the students' nursing capabilities and adaptability in clinical settings, contributing to their performance as nurses upon graduation [14].

The association between the need for care and the establishment of a caring relationship with the care recipient, along with the belief in one's ability regarding care-oriented expression, attitude, and behaviour, is of significant importance. Individuals who have experienced certain medical conditions or situations, such as breast cancer survivors, patients undergoing radiation therapy for cancer, spouses of women with gynaecological cancer, family members caring for hospice patients, primary caregivers of stroke patients, and individuals with significant disabilities, have expressed specific needs for care and support [15-25]. These needs likely encompass various aspects of physical, emotional, and practical care, indicating the challenges and requirements faced by these individuals and their caregivers in managing their health conditions or supporting their loved ones. Furthermore, there is a demand for care among healthy individuals like French learners, and nurses. This research endeavor seeks to validate the caring needs of nursing students.

Empathy (E) or compassion is defined as the capacity to empathize with and share the suffering and sorrow of others [26]. In an investigation focusing on nursing students, it was found that a higher level of cognitive and behavioural understanding of pain causes, and a willingness to empathize and alleviate suffering were associated with enhanced clinical performance. This understanding instilled confidence in providing care [27]. This study is to investigate how nursing students' Empathy (E) affects the effectiveness of their care.

Prior research has indicated that care behaviour and social support positively influence the care efficacy of nursing students [28, 29]. Dementia care practices and empathy have been shown to enhance care efficacy, with social support acting as a mediator [30, 31]. Nonetheless, there remains a gap in empirical evidence concerning the relationship between Empathy (E), which influences the self-assurance of nursing students and enhances empathy towards the pain of others, and care efficacy. Hence, this study seeks to offer fundamental insights to enhance care efficacy by examining the interplay among caring needs, Empathy (E), and care efficacy among nursing students who are striving to enhance their care performance skills through educational interventions.

## 1.2. Aim of the Study

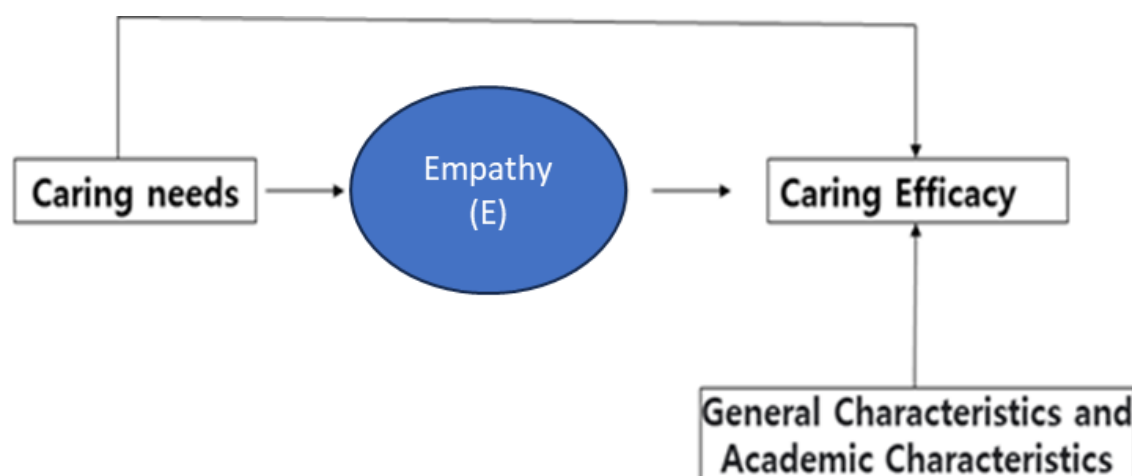
This study intends to investigate the potential mediating function of care in the relationship between nursing students' care efficaciousness and caring needs. The particular objectives of this

research are to: (1) characterise the empathy (E), caring needs (CN), and care efficacy (CE) of nursing students; (2) determine variations in CE according to nursing student features; (3) identify the relationships among nursing students between E, CN, and CE; and (4) explore the intermediary effect of E in the relationship between E and caring needs(CN) and care efficacy (CE).

## 2. Material and Method

### 2.1. Research Plan

This study is a descriptive research study to confirm the relationship between Care Needs (CN), Empathy (E), and Care Efficacy (CE) of nursing students. The proposed research plan is given in Figure 1.



**Figure 1.**  
Flow diagram for the Research plan.

### 2.2. Participants

Four nursing departments in a single province across two cities consented to participate in the study. The sample size was determined using the G\*Power 3.19 software, taking into account an effect size of .5, a significance level ( $\alpha$ ) of .05, and a power ( $1-\beta$ ) of .95 for regression analysis. Consequently, 220 samples were deemed necessary. With a 20% dropout rate in mind, a survey was conducted on a population exceeding 264 individuals.

### 2.3. Variables Used in the Present Study

Care Needs (CN): To measure CN, a scale developed by Yoon [32] was used. The questionnaire's validity was confirmed by Lee, et al. [33]. The questionnaire has 32 items in total with five sub-domains:

- First is the 'active listening' (10 items),
- Second is the 'acceptance and forgiveness' (8 items),
- Third is the 'hope and praise' (7 items),
- Fourth is the 'finding out' (5 items),
- Fifth is the 'companionship' (2 items).

Aa 5-point Likert scale, that ranged from 'strongly agree' coded with the number '5' to 'strongly disagree' coded with number '1'. The reliability during development was Cronbach's  $\alpha = 0.97$ , while in this study, Cronbach's  $\alpha = 0.95$ .

Empathy (E): A scale, constructed by Kim and Shin [34] was derived from the 21-item Compassionate-Love Scale (ACLS scale, as revised by Sprecher and Fehr [35]. Through factor analysis and validation on 207 college students, 12 items were selected for use. The Korean version of the Ajou Compassionate-Love Scale (ACLS) was employed to measure Empathy (E). Here again, a five-point Likert scale (1 to 5), ( 5 meaning "strongly agree" and 1 meaning "strongly disagree" was used.

Care Efficacy (CE): In the domain of CE, a self-reported CE scale (Form B) developed by Coates [27] was adjusted, supplemented, and translated by Jeong [36]. Comprising a total of 30 questions, evenly split between positive and negative. For this Likert scale of six-point was used where 6 representing "strongly agree" and 1 for "strongly disagree".

#### 2.4. Data Collection

The researcher visited each school in person, elucidated the study's objectives to students post-lecture, distributed URLs, and gathered data anonymously through online means.

#### 2.5. Data Analysis

The data was analysed utilizing SPSS 23.0 for Windows. Each method of analysis conducted is delineated as follows. Descriptive analysis of the general traits of CN, E and CE were in terms of frequency, percentage, mean, and standard deviation. Independent sample t-test, one-way analysis of variance (ANOVA), and post-hoc testing utilizing Scheffe's method were implemented. Moreover, a Pearson's correlation analysis was performed to unveil the interrelation among CN, Empathy (E), and CE within the cohort of nursing students. In order to understand the mediating role of Empathy (E) in the association between the CN of individuals and their CE, a multiple regression analysis was executed following the 3-step protocol outlined by Baron and Kenny [37]. The Sobel test was employed to ascertain the statistical significance of the mediating effect.

### 3. Results

#### 3.1. Demographic Details

Table 1 presents the demographic characteristics of the study participants. The mean age of the respondents was 22.4 years, with 84.0% (n=326) being female and 16.0% (n=62) being male. Notably, individuals in their 3rd year comprised the largest portion at 32.7% (n=127), while 56.2% (n=218) were students in their 3rd and 4th years who had completed clinical practice. Furthermore, a significant proportion of the cohort, specifically 60.1% (n=233), did not affiliate with any religious denomination. The majority of students reported an average monthly allowance of approximately 500,000 won. In terms of residential arrangements, 47.4% (n=184) lived independently, with over 70% of students living away from home, including in dormitory facilities. The primary motivations for selecting the nursing department were intrinsic factors such as aptitude and interest (30.7%, n=119), followed by considerations such as the high employability in the field, professional aspirations, parental guidance, and academic performance. Regarding practical training experiences, a majority of students, accounting for 58.2% (n=226), had undergone such training and expressed a desire to pursue careers in hospital settings (88.4%, n=343). Furthermore, 65.2% (n=253) perceived their academic performance as average. Notably, 81.2% had engaged in volunteer activities, reported above-average health conditions, and maintained a satisfactory level of interpersonal relationships, rated at 4.0. The satisfaction level with their major was 3.59 points, whereas students who had participated in clinical practice reported a slightly lower satisfaction score of 3.07 points.

**Table 1.**  
Demographic details.

Demographic variables (N=388)	Groups	n(%), Mean±SD
Mean age = 22.44±3.68		
Sex	Male	62(16.0)
	Female	326(84.0)
Grade	1	67(17.3)
	2	103(26.5)
	3	127(32.7)
	4	91(23.5)
Religion	Yes	155(39.9)
	No	233(60.1)
Motive	High school results	19(4.9)
	Suggested by Parents or Peers	60(15.5)
	Better Employment Opportunities and Foreign-going chances	113(29.1)
	Interest towards the profession	119(30.7)
	Financial Reasons	66(17.0)
	etc	11(2.8)
Pin money	200,000 less	63(16.2)
	300,000	88(22.7)
	400,000	83(21.4)
	500,000	91(23.5)
	over 600,000	63(16.2)
Residence	Main house	112(28.9)
	dormitory	92(23.7)
	Living on one's own	184(47.4)
Hands-on experience	Yes	226(58.2)
	No	162(41.8)
Hope course	hospital employment	343(88.4)
	Nursing public official	34(8.8)
	etc	11(2.8)
Record	Top(mean A)	66(17.0)
	Middle( mean B)	253(65.2)
	Lower(mean C)	69(17.8)
Volunteer	Yes	315(81.2)
	No	73(18.8)
Health Status	Likert scale (1 to 5)	3.88±.79
Relationship	Likert scale (1 to 5)	4.00±.65
Major Satisfaction	Likert scale (1 to 5)	3.59±.75
Satisfaction with clinical practice(N=226)	Likert scale (1 to 5)	3.07±.95

### 3.2. CN, Empathy (E), And CE

Table 2 displays the respondents' levels of Empathy (E), CE, and CN. The sub-items revealed that theirs need for caring was 3.84 points, with the need for "listening" being the highest at 4.10 points and

the need for "noticing" being the lowest at 3.57 points. CE was 4.17 points, while Empathy (E) was 3.20 points.

**Table 2.**

Degree of CN, Empathy (E), and CE of the subject.

		N=388	
variables	Category	M±SD (range)	
CN	Total CN	3.84±.64(1~5)	
	active listening	Listening	4.10±.64
		Comforting	4.02±.72
		Sharing	3.90±.70
		Participating	4.02±.76
	Forgiving & Accepting	Forgiving	4.02±.68
		Accepting	3.86±.70
	Complimenting & hoping	Complimenting	3.92±.79
		Hoping	3.71±.76
	Noticing	3.57±.82	
	Companioning	3.89±.78	
Empathy (E)		3.20±.78 (1 ~ 5)	
CE		4.17±.56 (1~ 6)	

### 3.3. Care Efficacy According to The Demography

Table 3 displays the CE based on the attributes of nursing students. When compared to students who replied with other forms of support, the CE of the students was lower. Furthermore, there existed a noteworthy distinction in the grades and the existence or non-existence of volunteer activity. Students with high scores, in particular, were more likely than those with middle or low scores to exhibit CE. Additionally, students with volunteer experience scored higher on care efficacy questionnaires than students without any volunteer experience.

A statistically significant link between health state, major satisfaction, interpersonal relationships and care efficacy was also seen. As a result, there were variations in the effectiveness of care based on the nursing students' major satisfaction, reason for applying to the department, grades, volunteer work, and health.

**Table 3.**  
Demographic variations.

<b>N=388</b>				
<b>Variables</b>	<b>Groups</b>	<b>M±SD</b>	<b>t or F/r</b>	<b>P(Scheffe's)</b>
Sex	M	4.17±.61	0.111	0.912
	F	4.16±.55		
Grade	1	4.19±.58	1.102	0.348
	2	4.14±.49		
	3	4.11±.62		
	4	4.25±.54		
religion	Yes	4.20±.58	0.846	0.398
	No	4.15±.55		
Reason for applying to nursing	High school results	4.15±.50	3.127	0.009 b<a,c,d,e<f
	Suggested by Parents or Peers	4.01±.53		
	Better Employment Opportunities and Foreign-going chances	4.08±.60		
	Interest towards the profession	4.26±.52		
	Financial Reasons	4.22±.57		
	Etc	4.54±.52		
Pin money	200,000 less	4.14±.56	0.257	0.905
	300,000	4.13±.60		
	400,000	4.19±.50		
	500,000	4.20±.54		
	Over 600,000	4.15±.62		
Residence	Self	4.11±.56	0.757	0.470
	Dormitory	4.20±.58		
	cooking food for oneself	4.18±.56		
hands-on experience	Yes	4.16±.58	-.080	0.936
	No	4.17±.54		
Hope course	hospital employment	4.18±.55	1.744	0.176
	Nursing public official	4.02±.62		
	Etc	4.00±.63		
Record	top(mean A)a	4.37±.54	6.509	0.002 b,c<a
	Middle( mean B)b	4.15±.56		
	lower(mean C)c	4.04±.55		
Volunteer	Yes	4.19±.54	1.932	0.050
	No	4.05±.64		
Health Status	Likert scale (1 to 5)	3.88±.79	0.128	0.012

Relationship	Likert scale (1 to 5)	4.00±.65	0.338	0.000
Major Satisfaction	Likert scale (1 to 5)	3.59±.75	0.265	0.000
Satisfaction with clinical practice (N=226)	Likert scale (1 to 5)	3.07±.95	-0.094	0.160

Source: Abbreviations: M-Male, F-Female.

### 3.4. Correlation among CN, E and CE

Table 4 displays the findings of the association between the subject's Empathy (E), CE, and CN. CE was found to have a weakly positive correlation with both CN and Empathy (E), as well as a weakly positive link between CN and Empathy (E).

**Table 4.**  
Correlation among CN, Empathy (E), and CE.

N =388			
Variables	CN	Empathy (E)	CE
	r(p)	r(p)	r(p)
CN	1	-	-
Empathy (E)	0.338(0.000)	1	-
CE	0.165(0.001)	0.201(0.000)	1

### 3.5. The Mediating Effect of Empathy (E)

The outcomes demonstrating the mediation role of Empathy (E) in the correlation amid the CN and CE of the subject are displayed in Table 5 and Figure 1. Before assessing the mediating effect, the presence of multicollinearity among the independent variables was examined by evaluating the tolerance threshold and variance expansion factor. The findings revealed that the tolerance range was between 0.34 and 0.88, exceeding 0.1, while the variance expansion factor (VIF) varied from 1.00 to 1.13, remaining below 10. Consequently, no evidence of multicollinearity was detected. The Durbin-Watson statistic of 2.01 confirmed the absence of autocorrelation in the dependent variable. Moreover, the normality assessment of the residuals yielded a statistically significant outcome, signifying the appropriateness of the regression model.

The assessment of the mediating impact of Empathy (E) in the connection between care needs and care efficacy followed Baron and Kenny [37] three-step verification process. The initial regression analysis indicated a significant impact of CN, the independent variable, on Empathy (E) ( $\beta=.338$ ,  $p<.001$ ). Subsequently, CN exhibited a notable influence on the dependent variable, CE, in the second-stage regression analysis ( $\beta=.044$ ,  $p<.001$ ). The third-step regression analysis confirmed Empathy (E) as the mediating factor, displaying a significant effect on CE ( $\beta=.038$ ,  $p=.002$ ). Additionally, CN affected CE, with the non-standardized coefficient (B) decreasing from 0.145 in the second stage to 0.46 in the third stage.

**Table 5.**

The Mediating Effect of Empathy (E) in the Relationship between CN and CE.

Variables	B	SE	$\beta$	t(p)	R <sup>2</sup>	F(p)
1. CN → Empathy (E)	0.411	0.058	0.338	7.052 (0.000)	0.112	49.736 (0.000)
2. CN → CE	0.145	0.044	0.165	3.281 (0.001)	0.025	10.765 (0.001)
3. CN, Empathy (E) → CE	0.119	0.038	0.165	3.120 (0.002)	0.046	10.370 (0.000)
	0.096	0.046	0.109	2.069 (0.039)		

Sobel test: Z =2.00,p =0.002

#### 4. Discussion

This study aimed to validate the impact of Caring Needs (CN) and Empathy (E) on the Caregiving Efficacy (CE) of nursing students, while also exploring the mediating role of Empathy (E) in the relationship between CN and CE. The results indicated that nursing students expressed a moderate to high level of need for interpersonal care behavior. The highest demand was observed in the sub-domain of 'listening,' suggesting a desire for attentive and meaningful engagement when verbally expressing opinions. Conversely, the demand for 'noticing' subtle changes with individual interest was relatively lower among nursing students.

These findings align with previous research on nurses and nursing students, which emphasizes the significance of active listening in fostering positive outcomes and enhancing confidence and performance in nursing [32, 38, 39]. The study highlights the importance of instructors modeling active listening behaviors to facilitate improvements in clinical performance among nursing students [13]. Future research should explore the correlation between instructors' listening competencies and nursing students' caregiving efficacy, particularly within the context of clinical practice education that emphasizes individualized guidance and interpersonal engagement [14].

Interestingly, this study revealed differences from previous research regarding the prioritization of interpersonal care behaviors. 'Listening' was highlighted as the highest demand among nursing students, contrasting with reports of 'accompanying' as the lowest in clinical practice settings [38, 39]. This disparity may be attributed to variations in measurement tools, individual characteristics, and data collection periods [32, 38, 39]. To address the observed gaps, nursing education curricula should emphasize the development of observational skills ('noticing') alongside active listening to enhance students' ability to approach patient care with empathy and sensitivity. Further investigation into the application and effectiveness of competency enhancement programs focused on 'noticing' is recommended to optimize nursing education practice.

In this study, the focus was on exploring the impact of Caring Needs (CN) and Empathy (E) on the Caregiving Efficacy (CE) of nursing students, aiming to inform efforts to enhance their caregiving skills during their education. The research involved 388 nursing students from four universities in Chungcheongnam-do, among whom 228 had undergone clinical practice. The findings revealed that nursing students expressed a moderate level of need for care, with 'listening' identified as the most important aspect and 'noticing' as the least emphasized. Various student characteristics, including department choice motivation, academic performance, participation in volunteer activities, health status, interpersonal relationships, and satisfaction with their major, were found to influence their perceived CE.

The study highlighted a positive correlation between CE, CN, and Empathy (E), suggesting that Empathy (E) plays a mediating role between CN and caregiving effectiveness. To address these

findings, there is a need to develop educational programs that enhance interpersonal care behaviors among nursing students. Future research should focus on refining the timing and methodologies of such programs within nursing curricula.

### Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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### References

- [1] M. Nam, S., "A naturalistic explanation of 'caring' in philosophy of nursing," Doctoral Thesis, Chonnam National University, Jeonnam, 2017.
- [2] H. Choi, J., "The analysis of contents in domestic research on caring efficacy," *The Journal of Learner-Centered Curriculum and Instruction* vol. 22, no. 9, pp. 311-320, 2022. <https://doi.org/10.22251/jlcci.2022.22.9.311>
- [3] E. Park, J., "Relationship between emotional intelligence, interpersonal competence, and caring efficacy in nursing students," Doctoral Thesis, Ewha Womans University, Seoul. <https://doi.org/10.17333/JKSSN.2018.6.2.15>, 2018.
- [4] J. Sadler, "A pilot study to measure the caring efficacy of baccalaureate nursing students," *Nursing Education Perspectives*, vol. 24, no. 6, pp. 295-299, 2003. [https://doi.org/10.1043/1536-5026\(2003\)024<0295:APSTMT>2.0.CO;2](https://doi.org/10.1043/1536-5026(2003)024<0295:APSTMT>2.0.CO;2)
- [5] B.-J. Park, S.-J. Park, and H. Cho, "The relationship between clinical practice stress, satisfaction of clinical practice, clinical performance ability and the nursing profession in nursing college students," *Journal of the Korea Academia-Industrial Cooperation Society*, vol. 17, no. 7, pp. 220-227, 2016. <https://doi.org/10.5762/KAIS.2016.17.7.220>
- [6] W. H. Jun, "Relationship between the stress of clinical practice and compassion competence in nursing students: The mediating effect of nursing professionalism," *Journal of Korean Academic Society of Home Health Care Nursing*, vol. 27, no. 2, pp. 169-178, 2020. <https://doi.org/10.22705/jkashcn.2020.27.2.169>
- [7] S. Kim and M. Shin, "A study of the stress encountered in clinical practice by students majoring in speech-language pathology," *Journal Speech-Language & Hearing Disorders*, vol. 26, no. 2, pp. 113-127, 2017. <https://doi.org/10.16999/jshd.2017.26.2.113>
- [8] S.-J. Whang, "The relationship between clinical stress, self-efficacy, and self-esteem of nursing college students," *The Journal of Korean Academic Society of Nursing Education*, vol. 12, no. 2, pp. 205-213, 2006. <https://doi.org/10.5977/jkasne.2006.12.2.205>
- [9] H.-J. Ju, "The effect of nursing students' clinical practice stress, performance ability, satisfaction, and critical thinking on nursing professional self concept," *Journal of Digital Convergence*, vol. 15, no. 8, pp. 213-224, 2017. <https://doi.org/10.14400/JDC.2017.15.4.213>
- [10] J. Park, "Effects of COVID-19 pandemic experience on stress in nursing students' clinical practice," *The Journal of Humanities and Social Science*, vol. 12, no. 6, pp. 933-947, 2021. <https://doi.org/10.13140/RG.2.2.18363.78889>
- [11] J. Han, I., "Effects of anger, job stress and social support on interpersonal caring behaviors in nurse," Master Dissertation, Dankook University, Cheonan, 2016.
- [12] C. Lee, "Effects of incivility and coping experienced by nursing students in clinical practice on caring efficacy," *Journal of Kyungpook Nursing Science*, vol. 26, no. 1, pp. 25-37, 2022. <https://doi.org/10.38083/JKNS.26.1.202202.025>
- [13] H.-K. Lee, K.-N. Jung, and S.-A. Chi, "A study on experiences of students to be cared in the teaching-learning process of nursing education," *The Journal of Korean Academic Society of Nursing Education*, vol. 7, no. 2, pp. 349-359, 2001. <https://doi.org/10.5977/jkasne.2001.7.2.349>
- [14] J. Kim and N. Heo, "Academic self-efficacy and clinical nursing competence of nursing students," *Journal of Learner-Centered Curriculum and Instruction*, vol. 17, no. 2, pp. 611-623, 2017. <https://doi.org/10.22251/jlcci.2017.17.2.611>
- [15] C. Joinson, "Coping with compassion fatigue," *Nursing*, vol. 22, no. 4, pp. 116, 118-9, 120, 1992.
- [16] J.-R. Kim, S.-O. Choi, and S.-N. Kim, "Analysis of symptom and care needs of home-based hospice palliative patients-home-based hospice business centered on community health centers in Busan," *The Korean Journal of Health Service Management*, vol. 12, no. 4, pp. 173-190, 2018. <https://doi.org/10.12811/kshsm.2018.12.4.173>
- [17] E. Kim, H., "Influence of post-treatment symptoms on care needs of breast cancer survivors," Master's Thesis, The Catholic University, Seoul. <http://www.riss.kr/link?id=T16550580>, 2022.

- [18] J.-Y. Choi and J.-J. Yang, "Effect of a multidisciplinary and individualized educational program on the need for caring among patients with cancer under radiotherapy," *Asian Oncology Nursing*, vol. 8, no. 1, pp. 17-23, 2008. <https://doi.org/10.5388/aon.2008.8.1.17>
- [19] J. H. Lee, "Unmet needs and caregiver among the family caregiver of hospice patients," Master's Thesis, Ewha Womans University. <http://www.riss.kr/link?id=T14139010>, 2016.
- [20] Y. Pak, S., "Unmet needs and caregiver burden of gynecological cancer patients' spouses," Master's Thesis, Sungkyunkwan University. <http://www.riss.kr/link?id=T14911546>, 2018.
- [21] H. J. Lim, "Relation between unmet needs and burden of caring perceived by primary caregivers of stroke patients," Master's Thesis, Ajou University, 2021.
- [22] E.-R. R. Ro, M.-J. Lim, H.-S. Kweon, and W.-K. Song, "A preliminary study of the care needs analysis for people with severe disability," *Journal of Rehabilitation Welfare Engineering & Assistive Technology*, vol. 4, pp. 101-102, 2018. <https://doi.org/10.12752/REATS.2018.4.101>
- [23] H. Z. Kim and S. Lee, "Relation entre l'intelligence & eacute; motionnelle, l'auto-efficacit&eacute; et soins interpersonnelle chez l'apprenant cor&eacute;en du fran&ccedil;ais," *Association Culturelle France-coreenne*, vol. 35, no. 2, pp. 37-60, 2017.
- [24] J.-Y. Shim and S. Lee, "Death anxiety and needs of interpersonal caring behaviors of nurses in hospice wards: Focused on types of personality," *The Journal of the Korea Contents Association*, vol. 21, no. 5, pp. 737-745, 2021. <https://doi.org/10.5392/jkca.2021.21.05.737>
- [25] S. M. Jung, "Effects of interpersonal caring horticultural activities program on interpersonal caring need, aggression, depression and life respect consciousness in high school students," Master's Thesis, Dankook University, Cheonan. <http://www.riss.kr/link?id=T15530889>, 2020.
- [26] Y. W. Kim, "Moral implications of sympathy and the passion of pity," *CHEOLHAK: Korean Journal of Philosophy*, vol. 76, pp. 155-180, 2003.
- [27] C. J. Coates, "The caring efficacy scale: Nurses' self-reports of caring," *Essential Readings in Holistic Nursing*, vol. 3, no. 1, pp. 53-59, 1998. <https://doi.org/10.1177/1080-4293-1997030101-00006>
- [28] S. H. Jin, "Influences of nursing professionalism, caring efficacy, and ethical sensitivity on caring behaviors in nursing students," Master's Thesis, Daegu Catholic University, Daegu. <http://www.riss.kr/link?id=T15499518>, 2020.
- [29] J. Park, W., "The effects of emotional intelligence, caring efficacy and social support on clinical competency in nursing students," Master's Thesis, Kaya University, Gimhae. <http://www.riss.kr/link?id=T15639155>, 2020.
- [30] K. A. Jeon, "Influencing factors on dementia care behavior of nurses in long-term care hospitals," Doctoral Thesis, Shinhan University, Gyeonggi-do. <http://www.riss.kr/link?id=T15935341>, 2021.
- [31] J. S. Lee, "Effects of the empathy of nursing students on careful effectiveness: Mediating effects of social support and interpersonal competence," Master's Thesis, Kunsan University, Jeollabuk-do. <http://www.riss.kr/link?id=T15420042>, 2019.
- [32] S. H. Yoon, "Study on clinical nurses' performance and satisfaction of using communication skills by interpersonal caring techniques," Master's Thesis, Ewha Womans University, Seoul. <http://www.riss.kr/link?id=T9862774>, 2005.
- [33] S. Lee, A.-S. Choi, S.-Y. Yim, and Y.-E. Chun, "Validity of the Korean interpersonal caring behavior scale (ICBS) for clinical nurse," *Journal of the Korea Convergence Society*, vol. 13, no. 4, pp. 89-101, 2022. <https://doi.org/10.15207/JKCS.2022.13.04.089>
- [34] W. S. Kim and K. H. Shin, "Very empathy (E) love scale development," *Journal of the Korean Psychological Association: Health*, vol. 19, no. 1, pp. 407-420, 2014. <https://doi.org/10.17315/kjhp.2014.19.1.022>
- [35] S. Sprecher and B. Fehr, "Compassionate love for close others and humanity," *Journal of Social and Personal Relationships*, vol. 22, no. 5, pp. 629-651, 2005. <https://doi.org/10.1177/026540750505056439>
- [36] J. O. Jeong, "The effects of empathy education program for nursing students on empathy, interpersonal ability and caring," Doctoral Thesis, Yonsei University, Seoul, 2016.
- [37] R. M. Baron and D. A. Kenny, "The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations," *Journal of Personality and Social Psychology*, vol. 51, no. 6, p. 1173, 1986. <https://doi.org/10.1037//0022-3514.51.6.1173>
- [38] Y. S. Son, "Interpersonal caring behavior and job satisfaction according to the enneagram personality types of nurses in medium sized hospitals," Master Thesis, Dankook University, 2012.
- [39] J. W. Baek, "Factors influencing on interpers onal caring behavior of nursing student," Master Thesis, Dankook University, 2013.