

# FACTORS INFLUENCING ELDERLY CARE WILLINGNESS OF NURSING STUDENTS

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## ABSTRACT

This study aimed to identify the factors affecting elderly care willingness (ECW) of nursing students. A total of 313 nursing students participated in the study. Data were collected from May to June 2019 using Interpersonal Reactivity Index-Korean version, Semantic Differential Scaling for evaluating attitudes toward elders, Scale of Ageism, and Questionnaire for care willingness toward older adults. Data were analyzed by t-test, ANOVA, Pearson's correlation coefficient, and multiple regression using SPSS 21.0 Program. The factors with the most significant influence on the elderly care willingness was prejudice toward the elderly ( $\beta = -.30$ ,  $p = .001$ ), followed by attitude toward the elderly ( $\beta = -.25$ ,  $p = .004$ ), third year ( $\beta = -.23$ ,  $p = .016$ ), satisfaction with volunteer experience with the elderly ( $\beta = -.21$ ,  $p = .008$ ), satisfaction with nursing major ( $\beta = -.17$ ,  $p = .032$ ), and empathy ( $\beta = .16$ ,  $p = .046$ ). These factors explained 46% of the elderly care willingness. In conclusion, it is necessary to reduce prejudice against the elderly and develop positive attitudes toward the elderly to increase the willingness of nursing students to care for older adults. In particular, further study is required to increase the willingness of nursing students to care for the elderly through developing programs such as curriculums for positive contact experiences with the elderly and volunteer activities for the elderly.

## Keywords:

Nursing students, Empathy, Attitude, Prejudice, Care willingness, Elderly.

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## 1. Introduction

### 1.1 Necessity of Research

In 2018, Korea became an aged society as the population aged 65 or older accounted for 14.3% of the total population and is projected to become a super-aged society in 2025 (Korea National Statistical Office, 2018-b). Korea is one of the world's fastest aging countries, and one of the biggest issues in an aging society is the health of the elderly. In 2015, 89.2% of the elderly population in Korea had an average of 2.6 chronic diseases (Oh, 2015). As the number of geriatric and chronic diseases increases, the demand for elderly welfare facilities has increased to 3,852 in 2010, 5,063 in 2015, and 5,242 in 2017 (Korea National Statistical Office, 2018-a). The number of workers in various elderly facilities is also expected to increase accordingly. In particular, the role of nurses to provide face-to-face services to the elderly is becoming more important, and their attitude and understanding of the elderly are important factors that can affect the quality of life and the level of services received by the elderly (Jung, 2012).

Elderly care willingness refers to the will to voluntarily perform nursing care for the elderly (Kim & Jang, 2017). Unlike the increasing demand for elderly care, the number of nurses working in geriatric hospitals is on the decline according to a survey on the status of nurse activities (Park, 2014). A couple of studies reported that nurses and nursing students did not want to care for the elderly or work in institutions for older adults (Kim, Yang, & Oh, 2002; Lim, Kim, & Kim, 2002). This is mainly because nursing students who have grown up in nuclear families have fewer opportunities to interact with the elderly, so they lack in understanding the elderly and have a negative image of the elderly (Kim, 2008). Nursing students in Turkey also showed negative views about the elderly, but their willingness to care for the elderly after graduation was relatively high (about 62%) (Sevilay et al., 2010). Korean nursing students had neutral attitudes toward the elderly (Kim, 2011; Kim & Jeong, 2013) but their preference to care for the elderly was low. Therefore, it is necessary to identify the factors that affect their willingness to

care for the elderly to improve their preference. Nursing students form an image of the elderly through nursing curriculums and decide their field of employment according to these images, so it is necessary to improve nursing students' willingness to care for the elderly by identifying the factors that influence their willingness to care for the elderly.

A precedent study in Korea on the willingness to care for the elderly showed that the contact quality with the elderly, anxiety about aging, and empathy were the factors associated with the nursing students' willingness to care for the elderly (Kim & Jang, 2017) and other than this, it is difficult to find any related research. A similar study on the influential factors associated with geriatric nursing practice in long-term care hospital nurses showed that the higher the empathy for the elderly, the more positive the attitude toward the elderly, and the better the geriatric nursing practice (Kim & Kwon, 2017).

Empathy refers to the ability to understand and feel the emotions, psychological state, and inner experiences of others (Park, 2004). Empathy is a very important factor in the relationship between nurses and patients, and it has been emphasized as a therapeutic concept to provide the appropriate environment to deliver care (Morse, Bottorff, Anderson, O'Brien, & Solberg, 1992). High empathy levels in nursing have a positive effect on the patients' health recovery (Goubert et al., 2005) and empathetic concern showed a significant correlation with attitudes toward the elderly (Kim & Jeong, 2013). The higher the empathy for the elderly, the more positive the attitude toward the elderly (Jung, 2012) and the greater the effect on improving the quality of nursing (Yu & Kirk, 2009).

Attitude refers to the tendency to respond positively or negatively towards a certain object, idea, or person (Fishbein & Ajzen, 1975) and attitude toward the elderly refers to the perspective of understanding the disposition and situation of the elderly (Lee & Yang, 2012). The caregivers' attitude is an important variable that

affects the behavior toward the elderly (Zhang, Liu, Zhang, Meng, & Liu, 2016) so a positive attitude is the most important prerequisite for elderly care (Kim, 2011).

Negative attitude toward the elderly can develop into prejudice against the elderly (Won, 2004). Prejudice against the elderly is to think negatively of the elderly by making judgments based only on the information one knows instead of the facts (Allport, 1954). Prejudice against the elderly is related to social atmospheres such as the declining social status of the elderly due to industrialization and urbanization, neglecting the elderly, and avoiding to care for older adults due to nuclear families and weaker traditional family ethics. This prejudice can make the general public misunderstand the elderly and lead to discriminatory behaviors such as avoiding or rejecting the elderly in situations where they face the elderly (Won, 2006). It is important for nurses to not have any prejudice toward the elderly because their prejudice against the elderly can have a negative effect on the quality of care received by patients.

Therefore, the purpose of this study is to investigate how the empathy, attitude, and prejudice of nursing students affect the willingness to care for the elderly. The process of nursing students forming a positive attitude and a high degree of understanding toward the elderly through their curriculums should have a positive effect on their nursing practice in the future. However, since there is a lack of research on nursing students to date, this study aims to provide a basic data for preparing educational strategies to improve willingness to care for the elderly by identifying the factors that affect nursing students' willingness to care for the elderly.

## **1.2. Purpose**

The purpose of this study is to identify the factors that influence the willingness of nursing students to care for the elderly. The details are as follows.

First, to investigate nursing students' empathy, attitude and prejudice toward the elderly, and their willingness to care for the elderly.

Second, to identify the difference in elderly care willingness according to the general characteristics of nursing students.

Third, to investigate the relationship between empathy, attitude and prejudice toward the elderly, and elderly care willingness of nursing students.

Fourth, to identify the factors affecting the willingness to care for the elderly.

## 2. Study Method

### 2.1. Design

This is a descriptive cross-sectional study to identify the factors that influence elderly care willingness of nursing students.

### 2.2. Subjects

This study conducted a survey by selecting a sample of nursing students attending a university in a metropolitan city near Seoul. The participants were 343 students in their 1<sup>st</sup> year (82), 2<sup>nd</sup> year (89), 3<sup>rd</sup> year (68), and 4<sup>th</sup> year (104) in nursing college who agreed in writing to participate in the study.

### 2.3. Data Collection Method

Data were collected from May 3 to June 7, 2019 using a self-reporting questionnaire. Before conducting this study, the purpose of the study, contents, procedures, and absolute confidentiality were explained to all participants before signing the consent form. They were informed that participating in the survey was voluntary and they could withdraw anytime during the process. After the participants read the consent form and agreed to participate, the questionnaires were distributed and only the questionnaires with written consent were collected for this study. It took about 15 minutes to complete the survey, and a total of 313 out of 343 copies were used for the final analysis, excluding those with incomplete responses.

### 2.4. Research Tools

This study used a questionnaire of 84 questions consisting of 13 items on general characteristics (gender, age, grade, religion, health status, economic status, motivation for choosing major in nursing, satisfaction with major, participation in geriatric nursing courses, grandparents dead/alive, experience living with grandparents, volunteer experience with the elderly, and satisfaction with the volunteer experience), 28 items on empathy, 20 items on attitude toward the elderly, 18 items on prejudice toward the elderly, and 5 items on elderly care willingness.

#### 1) Empathy

Empathy for the elderly was measured using the Interpersonal Reactivity Index (IRI) developed by Won (2006) and translated into Korean by Kang et al. (2009). This tool has a total of 28 questions, and the higher the score on a 5-point Likert scale, the higher the level of empathy. The Cronbach's  $\alpha$  for empathy was .72 in the study by Kang et al. and .83 in this study.

#### 2) Attitude toward the elderly

The attitude toward older adults was measured using the Semantic Differential Scale developed by Sanders, Montgomery, Pittman, and Balkwell (1984) and translated into Korean by Lim et al. (2002). Each question is composed of adjective pairs that are opposite to each other, and the lower the score on a 7-point Likert scale, the more positive the attitude. Scores between 3.5 and 4.5 mean neutral recognition, and a total score between 70~90 refers to a neutral attitude. The Cronbach's  $\alpha$  was .82 in the study by Lim et al. and .82 in this study.

#### 3) Prejudice toward the elderly

Prejudice toward the elderly was measured using the Fraboni Scale of Ageism (FSA) originally developed by Fraboni, Saltstone, and Hughes (1990) and revised into Korean by Kim, Kim, and Min (2012). This tool has a total of 18 questions, and the higher the score on a 5-point Likert scale,

the more severe the prejudice. The Cronbach's  $\alpha$  was .82 in the study by Kim et al. (2012) and .83 in this study.

#### 4) Elderly care willingness

This was measured using the tool originally developed by Zhang et al. (2016) and translated into Korean by Kim and Jang (2017). This tool consists of five items on a 5-point Likert scale, with higher scores indicating a higher willingness to care for older adults. The Cronbach's  $\alpha$  was .85 in the study by Zhang et al. (2016) and 0.88 in this study.

### 2.5. Data Analysis Method

The IBM SPSS statistics 21.0 program was used to analyze the collected data. First, the subjects' general characteristics, empathy, attitude and prejudice toward the elderly, and elderly care willingness were analyzed by numbers, frequency and percentage, and mean and standard deviation. Second, t-test and one-way ANOVA were used to analyze the empathy, attitude and prejudice toward the elderly, and elderly care willingness according to the subjects' characteristics, and the Scheffe test was used as a post-hoc test. Third,

Pearson correlation coefficients were used to analyze the relationship between empathy, attitude and prejudice toward the elderly, and elderly care willingness. Finally, multiple regression analysis was used to analyze the factors influencing elderly care willingness.

### 2.6. Ethical consideration

After providing information on research ethics, such as explaining the purpose of the study, contents, procedures, and guaranteeing the anonymity and autonomy of the subjects, the survey was conducted by obtaining written consent from the subjects to participate in the research.

## 3. Results

### 3.1. The subjects' empathy, attitude and prejudice toward the elderly, and elderly care willingness

The subjects' mean score was  $97.87 \pm 11.23$  out of 140 for empathy,  $83.65 \pm 11.56$  out of 140 for attitude toward the elderly,  $45.86 \pm 8.98$  out of 90 for prejudice toward the elderly, and  $16.60 \pm 4.12$  out of 25 for elderly care willingness (Table 1)

**Table 1: Degree of empathy, attitude, prejudice, and elderly care willingness (N=313)**

Variables	Number of Item	M $\pm$ SD	Point M $\pm$ SD	Range
Empathy	28	$97.87 \pm 11.23$	$3.50 \pm 0.40$	1~5
Attitude toward the elderly	20	$83.65 \pm 11.56$	$4.18 \pm 0.58$	1~7
Prejudice toward the elderly	18	$45.86 \pm 8.98$	$2.55 \pm 0.50$	1~5
Elderly care willingness	5	$16.60 \pm 4.12$	$3.32 \pm 0.82$	1~5

\*Point M $\pm$ SD: M $\pm$ SD/Number of Item

### 3.2. Differences in the degree of elderly care willingness according to the subjects' general characteristics

Table 2 shows the differences in elderly care willingness according to the general characteristics of the subjects. There were statistically significant differences in elderly care willingness according to the year in college, motivation for choosing major in nursing, satisfaction with major, experience living with

grandparents, and satisfaction with volunteer experience with the elderly. First-year students showed significantly higher scores for elderly care willingness than third second and fourth-year students ( $t=4.76$ ,  $p=.003$ ), the group that decided to major in nursing with their own will than those because of guaranteed employment ( $t=3.57$ ,  $p=.004$ ), and students who were satisfied with their major than those who were not satisfied ( $t=7.857$ ,  $p<.001$ ). In addition, the group with

positive experience living with their grandparents showed significantly higher scores for elderly care willingness than the group with negative experience ( $t=8.07$ ,  $p<.001$ ), and students who

were satisfied with volunteering for the elderly than those who were not satisfied ( $t=4.68$ ,  $p<.001$ ) (Table 2).

**Table 2: Elderly care willingness according to general characteristics (N=313)**

Variables	Categories	N	% or M±SD	Elderly Care willingness		
				M±SD	t/F(p)	Scheffe
Age		313	20.61±1.97			
Gender	Male	47	15.0	3.35±0.75	0.33 (.741)	
	Female	266	85.0	3.31±0.83		
Year in College	1(a)	81	25.9	3.60±0.78	4.76 (.003)	a>c, a>d
	2(b)	83	26.5	3.28±0.78		
	3(c)	86	27.5	3.17±0.91		
	4(d)	63	20.1	3.20±0.71		
Religion	Yes	136	43.5	3.25±0.78	-1.22 (.183)	
	No	177	56.5	3.37±0.85		
Health status	Good(a)	34	10.9	3.39±0.81	2.38 (.094)	
	Average	82	26.2	3.20±0.79		
	Poor(b)	197	62.9	3.16±0.88		
Economic status	Above average	110	35.1	3.31±0.82	0.81 (.448)	
	Average	176	56.2	3.29±0.80		
	Below average	27	8.6	3.51±0.96		
Motivation for choosing major in nursing	My decision(a)	123	39.3	3.54±0.70	3.57 (.004)	a>b
	Others' advice	45	14.4	3.13±0.94		
	Guaranteed employment(b)	101	32.3	3.13±0.90		
	Based on GPA*	29	9.3	3.39±0.71		
	Opportunity for social service	6	1.9	3.53±0.62		
	No Answer	14	2.8	3.26±0.75		
Satisfaction with major	Satisfied(a)	163	52.1	3.45±0.75	7.86 (<.001)	a>c
	Neither(b)	116	37.1	3.25±0.81		
	Unsatisfied(c)	34	10.9	2.87±1.01		
Grandparents alive	Yes	288	92.0	3.34±0.81	1.58 (.116)	
	No	259	8.0	3.07±0.91		
ELWG*	Yes	144	46.0	3.33±0.82	0.28 (.783)	
	No	169	54.0	3.31±0.83		
Quality of ELWG*	Positive(a)	105	33.5	3.49±0.68	8.07 (<.001)	a>b, a>c
	Neither(b)	40	12.8	2.97±0.98		
	Negative(c)	10	3.2	2.58±1.19		
VEWE*	Yes	215	68.7	3.35±0.77	1.00	



	No	97	31.0	3.25±0.91	(.318)	
Satisfaction	Satisfied	144	46.0	3.53±0.75	4.68	
with VEWE*	Unsatisfied	67	21.4	3.01±0.72	(<.001)	

\* GPA: Grade Point Average; ELWG: Experience of Living with Grandparents; VEWE: Volunteer Experience with the Elderly

### 3.3. Correlations between empathy, attitude and prejudice toward the elderly, and elderly care willingness

Table 3 shows the results of analyzing the correlations between the subjects' empathy, attitude and prejudice toward the elderly, and elderly care willingness. Elderly care willingness had a positive correlation with empathy ( $r=0.30$ ,  $p<.001$ ) and negative correlations with attitude

toward the elderly ( $r=-0.41$ ,  $p<.001$ ) and prejudice toward the elderly ( $r=-0.52$ ,  $p<.001$ ). Empathy showed negative correlations with attitude toward the elderly ( $r=-0.12$ ,  $p=.042$ ) and prejudice toward the elderly ( $r=-0.31$ ,  $p<.001$ ). In addition, attitude toward the elderly had a positive correlation with prejudice toward the elderly ( $r=0.51$ ,  $p<.001$ ) (Table 3).

**Table 3: Correlation with empathy, attitude, prejudice and elderly care willingness (N=313)**

Variables	Empathy	Attitude toward the elderly	Prejudice toward the elderly	Elderly care willingness
	$r(p)$	$r(p)$	$r(p)$	$r(p)$
Empathy	1			
Attitude toward the elderly	-.12 (.042)	1		
Prejudice toward the elderly	-.31 (<.001)	.51 (<.001)	1	
Elderly care willingness	.30 (<.001)	-.41 (<.001)	-.52 (<.001)	1

### 3.4. Factors influencing elderly care willingness

To investigate the factors affecting the willingness of nursing students to care for older adults, multiple regression analysis was performed using the factors with significant differences in the general characteristics (year in college, motivation for choosing major in nursing, satisfaction with major, quality of experience living with grandparents, and satisfaction with volunteer experience with the elderly) and factors that showed significant differences in the correlation analysis (empathy, attitude toward the elderly, and prejudice toward the elderly) as independent variables. Nominal variables such as the year in college, motivation for choosing major in nursing, satisfaction with major, quality of experience living with grandparents, and satisfaction with volunteer experience with the elderly were all treated as dummy variables. Table 4 shows the

results of analyzing the factors that influence the elderly care willingness of nursing students (Table 4).

As a result of assessing the multicollinearity between the independent variables used in the regression analysis, the tolerance limits of the variables (.564 ~ .868) were more than 0.1 and the variable inflation factor (VIF) (1.208 ~ 1.773) was smaller than 10, which showed the absence of multicollinearity. The Durbin-Watson value was 1.825, indicating that there was no autocorrelation error.

As a result of analysis using general characteristics such as the year in college, motivation for choosing major in nursing, satisfaction with major, quality of experience living with grandparents, and satisfaction with volunteer experience with the elderly, the factors

**Table 4: Factors affecting elderly care willingness (N=313)**

Variables	Category	Elderly care willingness				
		B	SE*	$\beta$	t	p
	(Constant)	24.36	3.82		6.38	.000
Year in college (1st)	2nd	0.55	.84	.06	0.66	.514
	3rd	-2.00	.81	-.23	-2.45	.016
	4th	-0.22	.86	-.02	-0.25	.800
Motivation for choosing major in nursing (ref: my decision)	Guaranteed employment after graduation	-0.03	.68	-.01	-0.04	.966
	Second best (advice, GPA * etc.)	0.09	.77	.01	0.12	.909
Satisfaction with major (ref: satisfied)	Unsatisfied	-1.32	.61	-.17	-2.18	.032
Quality of ELWG * (ref: positive)	Negative	-0.65	.64	-.08	-0.01	.316
Satisfaction with VEWE * (ref: satisfied)	Unsatisfied	-1.79	.66	-.21	-2.71	.008
Empathy (higher)		0.06	.03	.16	2.02	.046
Attitude toward the elderly (positive)		-0.08	.03	-.25	-2.99	.004
Prejudice toward the elderly (lower)		-0.12	.04	-.30	-3.27	.001
R <sup>2</sup> =.52, Adjusted R <sup>2</sup> =.46, F=9.27, p<.001						

\* SE: standard error

\* GPA: Grade Point Average; ELWG: Experience of Living with Grandparents; VEWE: Volunteer Experience with the Elderly

that had a significant effect on elderly care willingness were third-year ( $\beta=-.23$ ,  $p=.016$ ), satisfaction with major ( $\beta=-.17$ ,  $p=.032$ ), satisfaction with volunteer experience with the elderly ( $\beta=-.21$ ,  $p=.008$ ), empathy ( $\beta=.16$ ,  $p=.046$ ), attitude toward the elderly ( $\beta=-.25$ ,  $p=.004$ ), and prejudice toward the elderly ( $\beta=-.30$ ,  $p=.001$ ). The explanation power of these factors was 46%. The most influencing factor of the willingness to care for older adults was prejudice toward the elderly, followed by attitude toward the elderly, third year, satisfaction with volunteer experience with the elderly, satisfaction with major, and empathy.

#### 4. Discussion

The purpose of this study is to provide basic data to find ways to improve the willingness of nursing students to care for the elderly by identifying the factors that influence their willingness to care for older adults.

As a result of analyzing the subjects' degree of empathy, attitude and prejudice toward the elderly, and elderly care willingness, the mean score for elderly care willingness was 16.60 out of 25, which was lower than 17.50 in the study by Kim and Jang (2017) who used the same tools on nursing students. The empathy score was similar to the results of Kim and Lee (2015) using the same tool and Kim (2018) which used a different tool. The students in this study showed a neutral attitude toward the elderly, which was similar to the results of the studies by Choi (2006) and Song

(2004) using the same tool. The item with the most negative response perceived the elderly as 'conservative' and the most positive response was 'wise,' which was consistent with the study by Choi (2008). The score for prejudice toward the elderly was also similar to the results of the study by Son (2017) which used the same tool for undergraduate and graduate students in a local university.

The elderly care willingness of the subjects showed significant differences according to the year in college, motivation for choosing major in nursing, satisfaction with major, quality of experience living with grandparents, and satisfaction with volunteer experience with the elderly. First-year students showed the highest elderly care willingness, followed by fourth and third-year students. This was comparable with the results of a study by Kim and Jang (2017) which showed that third and fourth-year students with experience in clinical practice related to the elderly had more willingness to care for the elderly. This was probably attributed to the fact that 45.8% and 52.4% of the subjects in the study by Kim and Jang (2017) had experience in clinical practice and taking courses related to the elderly, respectively, whereas the students in this study had little or no experience in these aspects. The students who decided to major in nursing before admission also showed a significantly higher willingness to care for the elderly than those who chose their major based on other people's advice or guaranteed employment. In terms of satisfaction with major, students who were satisfied showed higher elderly care willingness than those who were not satisfied. Therefore, it is important to consider the students' motivation for choosing nursing in the admission process to improve their willingness to care for the elderly, and diverse educational measures need to be prepared to increase the students' satisfaction in nursing through curricular and extracurricular programs after admission. In addition, subjects with positive experiences in living with grandparents and volunteer work for the elderly

showed significantly higher willingness to care for older adults, which was consistent with the study by Kim and Jang (2017) that reported the quality of contact with the elderly had a positive effect on elderly care willingness. This may be attributed to the quality of contact rather than the frequency of simple contact with the elderly because positive experiences form more opportunities to develop a positive attitude toward the elderly.

As a result of analyzing the correlations between the subjects' empathy, attitude and prejudice toward the elderly, and elderly care willingness, the higher the level of empathy, the more positive the attitude toward the elderly, and the less prejudice, the higher the willingness to care for older adults. This was consistent with the study results by Kim and Jang (2017) which reported that nursing students with higher levels of empathy and positive attitudes toward the elderly had a higher willingness to care for older adults. It was also consistent with the study by Seo, Moon, Hong, and Park (2016) which reported that empathy was positively correlated with nursing care for the elderly. However, there was a lack of precedent studies to compare the correlation between prejudice toward the elderly and elderly care willingness.

The factors that influenced the willingness to care for the elderly were in the order of prejudice toward the elderly, attitude toward the elderly, third year, satisfaction with volunteer experience with the elderly, satisfaction with major, and empathy. These six factors explained 46% of the willingness to care for the elderly. In the study by Kim and Jang (2017) the most influencing factors of elderly care willingness were the quality of contact with the elderly, anxiety about aging, empathy, and fourth year. Attitude toward the elderly also showed a positive correlation but it was not significant in the study above. However, attitude toward the elderly was also a statistically significant factor in this study.

Prejudice toward the elderly was the most influencing factor on elderly care willingness, and the lower the prejudice, the higher the willingness



to care for older adults. Although studies related to prejudice toward the elderly are rare, studies by Son (2017) and Won (2006) reported that contact with older adults was a factor that had a significant influence on prejudice. Therefore, programs should be developed for nursing students to mutually interact and share quality experiences with the elderly to improve their willingness to care for the elderly. Including courses or clinical activities related to the elderly in the curriculum of nursing students will also be effective in reducing prejudice toward the elderly. In this study, attitude toward the elderly was the second most influencing factor on elderly care willingness. The study by Kim and Jang (2017) also reported that the more positive the attitude toward the elderly, the higher the elderly care willingness. Therefore, nursing colleges should provide additional courses or extracurricular activities so that nursing students can develop positive attitudes toward the elderly through developing positive direct and indirect experiences with the elderly.

The third most influencing factor on elderly care willingness was year in college, which was consistent with the study results by Kim and Jang (2017). However, unlike the study by Kim and Jang (2017), in which fourth-year students showed the highest elderly care willingness, the first-year students showed higher willingness than third and fourth-year students in this study. Although this seems to be attributed to the differences in the courses or clinical practice related to the elderly in the subjects' curriculum, additional studies are required to identify how the students' year in college affects elderly care willingness.

Satisfaction with volunteer work for the elderly was the fourth most influencing factor, and the higher the satisfaction, the higher the elderly care willingness. According to the study by Kim and Jang (2017), the quality of contact with the elderly was high when the subjects' had volunteer work experience related to the elderly, and the quality of contact with the elderly had the most influence on elderly care willingness. Therefore, to increase

elderly care willingness, it is necessary to change the curriculum or extracurricular activities so that volunteer work for the elderly can be a positive experience for nursing students, and form positive attitudes to understand and care for the elderly through long-term volunteering experiences.

The next most influencing factor was satisfaction with major. Although direct comparison is difficult because there are no studies on elderly care willingness using satisfaction with major as a variable, Shin and Ahn (2012) reported that those who experienced volunteer activities were more satisfied with their major than those with no experience, and that it was necessary to encourage voluntary work to increase the students' satisfaction with their major. Therefore, it is necessary to develop and apply volunteer programs where nursing students can apply their major to increase their willingness to care for the elderly.

Empathy was the last influencing factor. Kim and Jang (2017) also reported that empathy was the factor affecting elderly care willingness. Jeong (2013) suggested that elderly care requires a comprehensive approach to develop positive attitudes through proper knowledge and empathy for the elderly beyond the concept of simply treating diseases or physical nursing. Son (2017) reported that improving empathy was effective in reducing prejudice. Therefore, curriculums and extracurricular programs should be developed to increase the level of empathy to improve the willingness of nursing students to care for older adults.

In summary, to increase the willingness of nursing students to care for the elderly in an aged society, where the elderly account for a growing proportion of medical services, it is necessary to develop courses or programs that can lower prejudice against the elderly and develop positive attitudes toward the elderly. Educational curriculums also need to be changed so that volunteer work for the elderly becomes a positive experience and to increase the students' satisfaction with their major and empathy levels.

## 5. Conclusion

This is a descriptive cross-sectional study to identify the factors that influence elderly care willingness of nursing students. The results show significant differences in the willingness of nursing students to care for the elderly according to the year in college, motivation for choosing major in nursing, satisfaction with major, quality of experience living with grandparents, satisfaction with volunteer experience with the elderly, empathy, attitude toward the elderly, and prejudice toward the elderly. The participants' elderly care willingness was positively correlated with empathy and negatively correlated with attitude and prejudice toward the elderly. The factor with the most significant influence on the willingness to care for the elderly was prejudice toward the elderly, followed by attitude toward the elderly, third year, satisfaction with volunteer experience with the elderly, satisfaction with major, and empathy. These factors explained 46% of the elderly care willingness.

In conclusion, it is necessary to reduce prejudice against the elderly and develop positive attitudes toward the elderly to increase the willingness of nursing students to care for older adults. In particular, further study is required to increase the willingness of nursing students to care for the elderly through developing programs such as curriculums for positive contact experiences with the elderly and volunteer activities for the elderly. The following suggestions are based on the findings above.

First, this study was based on nursing students of one university, so a replication study should be carried out by expanding the sample.

Second, further study should be performed to investigate the association between prejudice toward the elderly and elderly care willingness and to identify the various factors influencing elderly care willingness.

Third, further study is necessary to identify the factors that influence the willingness of nursing

students to care for the elderly before and after clinical practice and to compare the differences. In addition, study should be conducted on ways to increase elderly care willingness by comparing the differences between nursing students and nurses.

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