



## ARE THE CARING BEHAVIORS OF FUTURE NURSES AFFECTED BY THEIR GENDER ATTITUDES? A CROSS-SECTIONAL STUDY

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**Abstract:** The aim of the study is to determine the correlation between attitudes of Turkish nursing students toward gender roles and their perceptions of caring behaviors. The study was conducted based on cross-sectional, descriptive and relational design. First- and fourth-year nursing undergraduate students studying at four state universities located in a large city in Türkiye were included in the study (n=541). Three forms including “Descriptive Characteristics Form”, “The Gender Roles Attitude Scale” and “Caring Assessment Questionnaire” were used as data collection tools. The students’ GRAS mean score was 147.12±15.47 and the highest subscale mean was detected in the egalitarian gender role subscale. The students’ Care-Q total mean score was 4.99±1.34 and the highest subscale mean was observed in the “Monitors and Follows Through” subscale. As a result of the study, it was observed that there was a statistically significant positive and very weak correlation between the nursing students’ caring behaviors and attitudes toward gender roles. The results indicated that the students participating in the study had an egalitarian attitude and as the egalitarian attitude increased, their caring assessment behaviors also increased.

**Keywords:** Attitude, Behavior, Gender role, Gender equity, Nursing care, Students

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### 1. Introduction

Care, which constitutes the essence of the nursing profession, is the only service that has remained unchanged since the existence of the profession (Taşocak, 2016). Nursing care is a type of helpful and advocacy relationship established by the nurses to determine the care needs of the individuals with existing or possible physical, psychological and social health problems, to make decisions, to implement them, to evaluate and to meet their own needs and it is ethical and legal responsibility of nurses (Göçmen Baykara, 2014). The concept of care, which is not peculiar to the nursing profession but indispensable to nursing, is affected by many factors such as social, political, economic, institutional, and professional factors as well as personal traits of nurses. Additionally, one of the important factors affecting care is the gender perspective of the culture in which one lives (Gül, 2019).

Sex is a biological trait and is usually classified as male and female. Gender refers to the socially accepted roles and relationships of women and men. Biological sex interacting with gender should be addressed as a social construct (WHO, 2022). This social structure constitutes gender roles together with cultural values. Gender roles are a social, cultural and learned concept. Gender stereotypes learned in the light of these roles are also reflected on fairy tales read during childhood.

Researchers who have examined world-famous fairy tales and animated films adapted from the past to the present, have emphasized that there have been gender stereotypes in animated films for 70 years, the patriarchal system is highlighted and female characters still bow to male characters, and these fairy tales can cause readers and viewers, especially children, to have a strict male and female image toward gender roles (Sumarsono et al., 2023). In this respect, gender roles and expectations influence almost every aspect of life as from infancy (Saewyc, 2017). Men and women take part in social areas with their internalized gender roles and professions also gain gender-based identities in accordance with the responsibilities attributed to individuals by gender roles in society.

With the effect of gender understanding, the roles and responsibilities attributed to women in the society are attributed to nurses. The place of women in the society has also influenced the place of nursing for centuries (Gül, 2019). The nursing profession has been a profession attributed to the female gender worldwide (Cho and Jang, 2021). In a study that conducted a literature review on the history of nursing (Brown et al., 2000), it was reported that the founder of nursing, Florence Nightingale, also supported the idea of being a “good woman” in order to be a “good nurse”. The physical and psychological closeness shown to patients in nursing



is associated with caring for children, patients, and old persons at home, traditionally regarded as women's natural activities (Clow et al., 2014).

In Turkish society, which has a patriarchal structure; social roles such as maintaining the order of the house, cooking and taking care of children are considered as the responsibility of women in the context of gender even though they take part in working life, social roles such as maintaining the order of the house, cooking and taking care of children are seen as the responsibility of women in the context of gender (Celebi and Kargin, 2019). The 2022 Global Gender Gap Report, presented by the World Economic Forum to assess the progression of gender equality and compare the gender gaps of countries, states that gender equality has progressed slowly due to the effect of the ongoing pandemic, the increase in living costs, and the crises such as climate problems. According to this report, Iceland ranks the first among 146 countries evaluated in terms of gender equality, while Türkiye ranks 124th (Global Gender Gap Report, 2022). However, although Iceland is at the top at international level for gender equality, nursing is a female-dominated profession in the country and men starting to work in female-dominated professions are subject to prejudice (Olafsdottir, 2018). In the report of the World Health Organization on gender equality in the health workforce, it is seen that the nursing profession is mostly practiced by the female gender in the world (Boniol et al., 2019).

Nurses' conscious perspective on gender equality has a significant impact on the care process (Pai et al., 2021). Studies conducted with nursing students have clearly demonstrated how culture is reflected on gender and thus affects care. The power in the patriarchal structure integrates caregiving, which is the essence of the nursing profession, with the woman and does not consider the male gender appropriate for nursing profession in this context (Kellett et al., 2014). The results of the studies conducted with nursing students in different countries support this information. In a qualitative study conducted in Türkiye, male students supported traditional patriarchal gender roles at a higher rate compared to their female counterparts and considered that the working areas in the profession should be separated by gender and men should work in the areas of management (Gönç, 2016). In another study conducted in South Africa, it was reported that male nursing students had difficulties in providing care in line with their gender roles and they experienced discomfort and embarrassment during caregiving (Shakwane, 2022). In a review study (Merry et al., 2021), it was reported that male students from Arabia, where the patriarchal perspective is the dominant, had difficulty in receiving education in mixed classes, getting information about women's health, and exhibiting caring behaviors such as hygiene and bathing for female patients, especially in the clinical setting. In another similar study conducted in Australia, the gender of male nurses was seen as a disadvantage when choosing female-dominated

professions, and it was concluded that the female gender was more appropriate, especially in areas including care (Simpson, 2011). In this context, it is crucial that the gender roles and attitudes of nursing students are egalitarian in order for the care to reach the whole society effectively.

Nurses, who are in direct contact with the society, need to be aware of gender roles and develop an egalitarian perspective (Cakiroglu and Seren, 2022). The perspectives of the students during their education are reflected on their professional careers and help them to become active members of the profession. When a student reaches an egalitarian gender perception during the education, this will contribute to the training of egalitarian caregivers. For this reason, evaluating the correlation between students' caring behaviors and gender perceptions will enable to determine the necessary strategies for the egalitarian attitude of future members of the profession. Caring behaviors of students in relation to the roles that society attributes to women and men and how the students evaluate the care are important for the place of the nursing profession in the future. In this sense, it is thought that this study will raise awareness for the members of the profession who will have an egalitarian attitude in the future.

When the literature is examined, it is seen that there are studies examining nursing students' attitudes toward gender roles (Zeyneloğlu and Terzioğlu, 2011; Kim and Nam, 2013; Çetişli et al., 2017; Başar and Demirci, 2018; Erbil, 2019; Tekkas et al., 2020; Öztürk et al., 2021; Ünal Toprak and Turan, 2021; Cho and Jang, 2021; Prosen, 2022) and studies on the perception of nursing students' caring behaviors (Joonbakhsh and Pashae, 2014; Zamanzadeh et al., 2014; Birimoğlu and Ayaz, 2015; Loke et al., 2015; Petrou et al., 2017; Eskimez and Acaroğlu, 2019; Gözütok Konuk and Tanyer, 2019; Pajnikihar et al., 2020; Ferri et al., 2020; Özkan et al., 2021). However, there is a limited number of studies that examine the correlation between these two important factors that exist on the basis of the nursing profession. (Ushiro and Nakayama, 2010; Hung et al., 2019; Liu et al., 2019; Gökşin and Erzincanlı, 2020; Duman, Aydın, 2021; Shmilovitz et al., 2021). The researchers found this subject worthy of research since there has been no study examining the correlation between nursing students' perceptions of caring behaviors and their attitudes toward gender roles during the planning and data collection process of the present study. In order for nursing care to be successfully achieved, it is necessary to understand the caring behaviors very well during the nursing education and to internalize and implement them with egalitarian gender roles. For this purpose, the study was conducted to examine the correlation between nursing students' perceptions of caring behaviors and their attitudes toward gender roles.

## 2. Materials and Methods

### 2.1. Study Design

The study was conducted based on cross-sectional, descriptive and relational design in order to determine the correlation between nursing students' perceptions of caring behaviors and their attitudes toward gender roles.

### 2.2. Setting and Participants

The population of the study consisted of first- and fourth-year nursing undergraduate students (N=1590) studying during the spring semester of the 2016-2017 academic year at four state universities in the capital city of Türkiye. The sample of the study, on the other hand, consisted of 310 nursing students according to the sampling method formula whose population is known. The representative power of the research was increased by applying a questionnaire to more students than the calculated sample number. The students, who agreed to participate in the study, were at the school during data collection, and filled out the questionnaire completely (n=541), were included in the study. At the time of the research, the subject of gender is mentioned in the relevant parts of the courses.

### 2.3. Data Collection Tools

Three forms were used as data collection tools: "Descriptive Characteristics Form", "Gender Roles Attitude Scale (GRAS)" and "Caring Assessment Questionnaire (CARE-Q)".

### 2.4. Descriptive Characteristics Form

This is a form prepared in accordance with the literature (Zeyneloğlu and Terzioğlu, 2011; Zamanzadeh et al., 2014; Birimoğlu and Ayaz, 2015) and includes a total of ten questions about students' descriptive characteristics, number of siblings, family structure, educational level of their family and working status of their family.

### 2.5. The Gender Roles Attitude Scale (GRAS)

GRAS was developed by Zeyneloğlu and Terzioğlu (2011) in Türkiye to determine individuals' attitudes toward gender roles. The scale has 38 items and five subscales (egalitarian gender role, female gender role, marriage gender role, traditional gender role, and male gender role). In this 5-point Likert scale, students' egalitarian attitudes toward gender roles (1, 4, 8, 12, 13, 18, 19, 20, 21, 22, 26, 27) are rated as follows; 5 points for 'strongly agree', 4 points if 'agree', 3 points for 'undecided', 2 points for 'disagree', and 1 point for 'strongly disagree'. Items on traditional attitude regarding gender roles (2, 3, 5, 6, 7, 9, 10, 11, 14, 15, 16, 17, 23, 24, 25, 28- 38) are reversely rated. According to this scoring result, the highest and lowest scores were calculated as '190' and '38'. The highest value obtained from the scale indicates that the respondent has an 'egalitarian attitude'; whereas, the lowest value indicates that he/she has a 'traditional attitude'. The Cronbach's alpha coefficient of the scale is 0.92 (Zeyneloğlu and Terzioğlu, 2011). In this study, the Cronbach's alpha coefficient of the scale was found to be 0.93.

### 2.6. Caring Assessment Questionnaire (Care-Q)

Care-Q was developed by Larson (Larson, 1981) and is

the first quantitative caring assessment tool in the nursing literature. The scale has 50 items and six subscales (Accessible, Explains and Facilitates, Comforts, Anticipates, Trusting Relationship, and Monitors and Follows Through). Each item is rated as "Never (1), Almost Never (2), Rarely (3), Sometimes (4), Usually (5), Almost Always (6), and Always (7)". Scoring of the scale is calculated by considering the numerical values (between 1 point and 7 points) showing the response given to each caring behavior. The lowest and highest total score of the scale are 50 and 350, respectively. By dividing the total score by the number of items (50 items), a total scale score between 1-7 is obtained. Higher scores signify that the frequency and perceptions of caring behaviors increase positively. The Cronbach's alpha coefficient of the scale was found to be 0.97 (Larson, 1981). The validity and reliability study of the scale in Türkiye was conducted by Eskimez and Acaroğlu (Eskimez and Acaroğlu, 2019), and the Cronbach's alpha coefficient was 0.97 in their study. In this study, the Cronbach's alpha coefficient of the scale was found to be 0.98.

### 2.7. Data Collection

The study was conducted between 15 May and 10 June 2017. In order to implement the study, it was decided to conduct the application on the appropriate days and at the specified time intervals determined for each university after meeting with the managers of the nursing department of each university and learning the schedules of the students. After the researcher informed the students about the purpose of the research, their written consent was obtained, and they completed the questionnaire forms at lunch break in a way that would not interfere with the teaching of the courses, and then handed over the forms to the researcher. It took approximately 15 minutes to complete the questionnaire.

### 2.8. Data Analysis

Statistical analyses were performed using the IBM Statistical Package for Social Sciences (SPSS) 20.0 (SPSS Inc, Chicago, USA) software for Windows and the significance level was considered as 0.05. The students' socio-demographic variables, attitudes toward gender roles, and caring behaviors were evaluated using percentage distribution and mean. Pearson's Correlation Analysis was used to examine the correlations between the subscales in the scales and the correlation between the scores of the two scales. Tukey Test was used to find out which group caused the difference between the groups.

## 3. Results

Of the 541 participants, 468 (86.5%) were female. The mean age of the students was 20.68±1.79 (min=18, max=30) and 316 were the first-year students and 225 were the fourth-year students. Most of the students (86.1%) had a nuclear family structure and three siblings (36.2%). Mothers of half of the students were primary school graduates (52.5%), and nearly half of their fathers

were high school and university graduates. While the mothers of most of the students (81.7%) were unemployed, the fathers of almost all of the students (98%) were employed. Most of the parents had arranged marriages (71.5%). According to the sex variable, there was a statistically significant difference between the GRAS and CARE-Q total mean scores of male and female students ( $P<0.05$ ). Although there was no statistically significant difference between the students studying in different classes in terms of attitudes toward gender roles and caring behaviors ( $P>0.05$ ), the first-year students' GRAS and CARE-Q mean scores were higher than the GRAS and CARE-Q mean scores of the fourth-

year students. There was a statistically significant difference between family structure, number of siblings, mother's educational level, mother's employment status, and parents' marriage style, and students' attitudes toward gender roles ( $P<0.05$ ). In the paired comparisons, the difference between the groups stemmed from the students who had a nuclear family, 4 or more siblings, and parents preferring arranged marriage ( $P<0.05$ ) (Table 1). There was no statistical difference between family structure, number of siblings, educational level of mother and father, employment status of mother and father, marriage style of parents and caring assessment behavior (Table 1).

**Table 1.** CARE-Q and GRAS total mean scores of the students according to their socio-demographic characteristics

Characteristics	n	%	CARE-Q		GRAS	
			$\bar{X} \pm SD$	Statistical analysis	$\bar{X} \pm SD$	Statistical analysis
Mean Age	$\bar{X} \pm SD = 20.68 \pm 1.79$		Min = 18	Max = 30		
Sex						
Female	468	86.5	5.04±1.36	t=1.981	149.84±13.79	t=11.586
Male	73	13.5	4.70±1.20	P=0.048	129.64±14.23	P=0.000
University year						
1st year	316	58.4	5.07±1.25	t=1.606	147.39±14.49	t=0.474
4th year	225	41.6	4.88±1.46	P=0.109	146.73±16.77	P=0.636
Family structure						
1/Nuclear family	466	86.1	4.99±1.33	F=0.292	147.12±15.43	F=7.603
2/Extended family	63	11.6	4.96±1.38	P=0.747	144.06±15.10	P=0.001
3/ Broken family	12	2.2	5.28±1.55		162.83±8.20	PostHoc:1-2,3
Number of siblings						
1/1 sibling	20	3.7	5.11±1.62	F=1.654	154.60±11.27	F=5.427
2/2 siblings	174	32.2	4.90±1.39	P=0.176	149.43±15.24	P=0.001
3/3 siblings	196	36.2	5.15±1.22		146.92±15.78	PostHoc: 4-1,2,3
4/4 siblings and more	151	27.9	4.87±1.39		143.72±15.10	
Educational level of mother						
1/ Illiterate / Literate	69	12.8	5.02±1.29	F=1.115	141.48±15.52	F=4.712
2/Primary school	284	52.5	5.12±1.50	P=0.348	146.35± 15.78	PostHoc:1-3,4
3/Secondary school	74	13.7	5.49±1.26		150.69± 13.86	
4/High school	81	15.0	5.22±1.59		150.58± 13.97	
5/University	33	6.1	5.20±1.65		148.97± 16.15	
Educational level of father						
Illiterate / Literate	20	3.7	4.38±1.96	F=0.682	143.65±16.14	F=1.543
Primary school	164	30.3	4.96±1.41	P=0.604	145.47± 15.25	P=0.188
Secondary school	105	19.4	5.28±1.35		149.61± 14.58	
High school	138	25.5	5.08±1.63		148.02± 15.80	
University	114	21.1	5.16±1.55		146.70± 15.90	
Employment status of mother						
Unemployed	442	81.7	4.96±1.30	t=-1.223	146.14± 15.34	t=-2.941
Employed	92	17.0	5.15±1.51	P=0.222	151.30± 15.32	P=0.003
Employment status of father						
Unemployed	10	2.0	5.67±1.02	t=1.596	156.0±10.39	t=-1.793
Employed	512	98.0	4.98±1.36	P=0.111	147.13±15.56	P=0.074
Marriage style of the parents						
1/ Arranged	387	71.5	5.07±1.23	F= 2.217	145.77± 15.55	F=5.443
2/ Companionate	141	26.1	4.80±1.59	P=0.110	150.28± 14.88	P=0.005
3/Other*	13	2.4	4.77±1.36		153.00± 13.92	PostHoc:1-3

\* Consanguineous marriage, those who did not know how their parents got married.

Table 2 shows the GRAS and CARE-Q total and subscale mean scores of the participants. It was found that the GRAS mean score of the students was 147.12±15.47. The mean scores of the students for the GRAS subscales were “egalitarian gender role” (39.45±6.08), “marriage gender role” (36.29±4.74), “traditional gender role” (30.82±5.87), “female gender role” (29.48±5.80), and “male gender role” (11.08±4.27) in descending order. The CARE-Q mean score of the students was 4.99±1.34. Concerning CARE-Q subscales, the highest mean score was observed in the “monitors and follows through” (5.21±1.48) subscale; whereas, the lowest mean score was found in the “anticipates” (4.58±1.55) subscale (Table 2).

There was a positive and very weak, statistically significant correlation between the gender role attitudes and caring behaviors of the students (r=0.111, P=0.01; Table 3). There was a very weak positive correlation between their “egalitarian gender role” attitude and “accessible”, “comforts”, “trusting relationship”, and “monitors and follows through” caring assessment. Furthermore, there is a very weak positive correlation between their “traditional gender role”, “marriage gender role” and “male gender role”, and “trusting relationship” caring assessment. There was no significant correlation between the students' mean score of “female gender role”, subscale of GRAS, and their CARE-Q total and subscale mean scores (P>0.05) (Table 3).

**Table 2.** CARE-Q and GRAS total and subscale mean scores (n=541)

Scale Subscales and Total Scores	Minimum	Maximum	$\bar{X} \pm SD$
<b>CARE-Q</b>			
Accessible	1	7	4.88±1.41
Explains and Facilitates	1	7	4.76±1.50
Comforts	1	7	5.10±1.39
Anticipates	1	7	4.58±1.55
Trusting Relationship	1	7	5.08±1.42
Monitors and Follows Through	1	7	5.21±1.48
CARE-Q total score	1	7	4.99±1.34
<b>GRAS</b>			
Egalitarian gender role	10	45	39.45±6.08
Female gender role	10	40	29.48±5.80
Marriage gender role	12	40	36.29±4.74
Traditional gender role	11	40	30.82±5.87
Male gender role	6	30	11.08±4.27
GRAS total score	85	176	147.12±15.47

**Table 3.** The correlation between the mean scores of CARE-Q and GRAS subscales

CARE-Q Subscales		Egalitarian gender role	Female gender role	Marriage gender role	Traditional gender role	Male gender role	TOTAL (GRAS)
Accessible	r	0.160	0.009	0.058	0.058	-0.046	0.094
	P	0.000	0.834	0.180	0.176	0.286	0.029
Explains and Facilitates	r	0.081	0.005	-0.003	0.059	0.002	0.056
	P	0.059	0.910	0.937	0.171	0.971	0.197
Comforts	r	0.159	0.021	0.055	0.070	-0.051	0.100
	P	0.000	0.633	0.203	0.102	0.240	0.020
Anticipates	r	0.070	0.022	-0.010	0.055	-0.011	0.051
	P	0.104	0.602	0.812	0.198	0.796	0.238
Trusting Relationship	r	0.198	0.048	0.111	0.120	-0.108	0.146
	P	0.000	0.265	0.010	0.005	0.012	0.001
Monitors and Follows Through	r	0.162	0.013	0.068	0.077	-0.065	0.100
	P	0.000	0.760	0.116	0.075	0.131	0.020
TOTAL (CARE-Q)	r	0.164	0.027	0.065	0.089	-0.064	0.111
	P	0.000	0.534	0.128	0.038	0.134	0.01

**4. Discussion**

Nursing profession is a discipline that is guiding for society in the health field and in every sense. It is crucial for nursing students, who will carry this profession to the

future, to have an egalitarian consciousness, for both healthcare professionals and the individuals they care for. In the present study, the correlation between nursing students' perceptions of caring behaviors and their

attitudes toward gender roles was examined with various variables affecting them.

As the students' CARE-Q scores increase, the frequency and perceptions of caring behaviors increase positively (Eskimez and Acaroğlu, 2019). According to the total mean score of the students participating in the study, it can be said that their caring behaviors were positive, which is compatible with similar studies (Birimoğlu and Ayaz; 2015; Labrague et al., 2015; Eskimez and Acaroğlu, 2019; Gözütok Konuk and Tanyer, 2019; Gökşin and Erzincanlı; 2020; Özkan et al., 2021). When the CARE-Q subscales are examined based on the results of this study, it was observed that the students mostly made attempts in the psychomotor domain and applied them frequently. It is very important for students to develop and learn skills for their profession, to attach importance to physical care, and to have behaviors that include professional knowledge and skills with a professional perspective. This result is also seen in similar studies (Zamanzadeh et al., 2014; Birimoğlu and Ayaz, 2015; Eskimez and Acaroğlu, 2019; Özkan et al., 2021). The fact that students' caring behaviors for affective and cognitive behaviors are less than caring behaviors for psychomotor domain indicates that these domains need to be developed. The fact that students' caring behaviors are more focused on the psychomotor domain may be due to the clinical nurses they take as role models during clinical practices and the course load weight of laboratory practice, especially in first-year students. Unlike the results of this study, results of some studies have revealed that students perceive care that addresses the affective domain more important (Petrou et al., 2017; Gözütok Konuk and Tanyer, 2019; Gökşin and Erzincanlı; 2020). In this study, among the subscales of CARE-Q, the lowest mean score was detected in anticipates subscale that include noticing the patient's condition or needs and taking initiatives for it. The low level of these caring behaviors of the students can be associated with the fact that they had less professional experience such as receiving care as a patient and providing care to a patient, or that they were not yet ready for this subject. These results are compatible with the studies in the literature (Labrague et al., 2015; Birimoğlu and Ayaz, 2015; Gökşin and Erzincanlı 2020; Özkan et al., 2021). In light of the current status in today's healthcare, nursing education needs to adequately prepare students to acquire care competence to meet the healthcare needs of each patient.

In this study, no correlation was found between the students' caring assessment behaviors and variables such as university year, family structure, number of siblings, and educational level and employment status of parents. However, the CARE-Q mean score of the first-year students was higher than mean score of their fourth-year counterparts. Similar to this result, there are also studies showing that lower-grade students' caring behaviors are higher (Loke et al, 2015; Gözütok Konuk and Tanyer, 2019; Özkan et al., 2021). Considering that the fourth-

year students have the chance to have more care experiences and their perceptions of care will improve during their nursing education, the results of this study are surprising. The fact that the first-year students had higher caring assessment behaviors can be interpreted as the excitement they feel with their first clinical experience increases. Contrary to these results, there are the study results showing that caring assessment behaviors are higher as their university years increase (Zamanzadeh et al., 2014; Pajnkihar et al, 2020; Ferri et al, 2020); on the other hand, some others have indicated that the grade variable does not affect the perception of care (Birimoğlu and Ayaz; 2015; Labragu et al, 2015).

According to the GRAS total mean score of the participants, it was observed that the students had an "egalitarian attitude" toward gender roles. This result indicated that the students considered men and women as individuals who have equal rights in daily life, make common decisions, and share the chores and responsibilities at home equally. Likewise, in the literature on the gender roles of nursing students in Türkiye (Zeyneloğlu and Terzioğlu, 2011; Başar and Demirci, 2018; Erbil, 2019; Gökşin and Erzincanlı, 2020; Öztürk et al., 2021; Cakıroğlu and Seren, 2022) it is very pleasing to see that students' attitudes toward gender are egalitarian.

In the present study, the students' attitudes toward gender roles were affected by gender, family structure, number of siblings, mother's educational level, mother's employment status, and the marriage style of parents. It was observed that female students had more egalitarian attitudes than male students. It is important for female students to be aware of the roles and responsibilities of women and men in daily life so that they can raise generations that advocate gender equality as mothers of the future. Although the geographical regions of the students were not questioned in this study, it is pleasing to find this result considering the students coming together from different cultures. This finding is compatible with the results of national similar studies, which have reported that female students have more egalitarian attitudes than male students (Başar and Demirci, 2018; Erbil, 2019; Cakıroğlu and Seren, 2022). There is also a study (Ünal Toprak and Turan, 2021) reporting that those male students' gender perceptions were more positive than female students in Türkiye. In a study conducted in Korea (Kim and Nam, 2013), it was found that female students had a higher perception of traditional gender role compared to males. This shows that the perception of gender varies according to society and culture, and traditional trends still continue despite the increasing social involvement of women and the diversity in their roles.

The family environment and culture in which people live are important factors in creating sexist attitudes and gender stereotypes for men and women (Tekbas and Pola, 2020). In one of the studies conducted in different countries to determine the gender role attitudes of

nursing students, it was observed that Korean male nursing students, in which patriarchal culture is dominant, had more gender stereotypes than their female students (Cho and Jang, 2021). Similarly, in a study conducted in Türkiye and Korea, two countries with patriarchal cultures, male nursing students exhibited more sexist attitudes than female ones. Moreover, Turkish nursing students showed significantly higher sexism than Korean students (Tekkas et al., 2020). A qualitative study conducted in Slovenia (Prosen, 2022) revealed that female students chose the profession with the repercussion of the patriarchal effect, and their vision of the nursing profession represented self-sacrifice. The vision of male students includes the technical aspects of management, leadership and nursing (Prosen, 2022).

One of the factors affecting gender roles is the family. The child first begins to learn the roles of women and men in the family (Akkaş, 2019). In particular, the higher educational status of the mother in the family and the mother's employment increase the tendency of children to have egalitarian attitudes (Aksan et al, 2011; Öztürk et al, 2021). In the present study, the students' attitudes toward gender roles were associated with mother's educational level, mother's employment status and number of siblings. In this sense, it was seen that in children with employed mothers, their mothers and fathers shared the roles and responsibilities equally in the family. According to the results of the further analysis, it was determined that this difference was caused by the students who had 4 or more siblings. It was thought that helping their parents and sharing the roles and responsibilities at home increased the egalitarian attitudes of the students with a small number of siblings. Care is a very important value at the center of the nursing profession and the egalitarian attitude of nursing students will make care stronger. According to the results of this study, the students' gender role attitudes were correlated with their caring behaviors. This result will enable holistic care by increasing all caring behaviors including cognitive, affective and psychomotor domains for the nursing profession as the egalitarian attitude of the students' increases. This result is similar to results of Gökşin and Erzincanlı (2020) study.

In line with these findings, it is thought that the quality of care, which is the basic structure of the profession, will be strengthened when the egalitarian gender attitudes of nursing students increase. A study conducted in Japan (Ushiro and Nakayama, 2010) revealed that nurses with conservative gender role attitudes were less likely to enhance their quality of care, which supports this important finding. A study examining the correlation between nursing students' sexual care attitudes and gender roles in Türkiye reported that students who adopted egalitarian gender roles positively increased in their sexual care attitudes and beliefs, and they had high self-efficacy while providing sexual care (Duman and Aydın, 2021). In a similar study conducted in Türkiye, a positive and low-level significant correlation was

determined between the students' GRAS egalitarian gender role subscale mean score and CARE-Q total mean score (Gökşin and Erzincanlı, 2020). In another similar study conducted in Taiwan (Liu et al., 2019) it was stated that gender role orientation was significantly positively correlated with caring behaviors. It was pointed out that students' attitudes towards gender roles should also be taken into account while developing their caring behaviors (Liu et al., 2019). In a study conducted in Israel (Shmilovitz et al., 2021), it was observed that nurses with androgen gender role orientation exhibited caring behaviors at a higher level than those with feminine or masculine gender role characteristics. The cultural structure of the society affects the perceptions of individuals regarding gender roles (Tekbas and Pola, 2020). Nursing students who come from different sociocultural environments and receive education together in the same atmosphere also tend to be highly influenced by cultural factors in terms of nursing performance (Park et al., 2019). In this context, in a study conducted with male nursing students in Taiwan (Hung et al., 2019), it was found that barriers to gender equality reduced students' caring behavior.

These studies have showed that although gender differs according to the country and the culture in which they live, it is an undeniable fact that students have an egalitarian role in the development of caring behavior.

## 5. Conclusion

Students from different geographical regions and cultures come to universities and there is a general understanding in society that care is focused on the female gender. However, nursing is a discipline that focuses on care, and the members of the profession must fulfill the requirements of the profession regardless of gender. It is the responsibility of nurse educators to ensure our female and male nursing students to graduate within the framework of an egalitarian attitude. However, it is crucial that the academics responsible for the education of the students also have an egalitarian attitude in order to establish a role model for the students. However, we think that the courses describing gender equality should be added to the nursing curriculum. The results of the research support our opinion (Çetişli et al, 2017; Aksan et al., 2011). The decision of the Turkish Council of Higher Education in Türkiye to include the "Gender Equality" course as a compulsory or elective course in universities also reveals the importance of gender equality (CHE, 2015). Here, more qualitative and quantitative evidence-based studies are needed for fully determine the caring behaviors of students, their attitudes toward gender roles and the factors affecting them. In this study as the egalitarian attitude increased, students caring assessment behaviors also increased. Examination of these issues by nurse educators can contribute to minimizing gender stereotypes, reducing gender discrimination in health, and thus providing more effective care.

### Limitations

Since most of the nursing students had female gender, the lack of equality in the number of male and female students in the sample, the absence of a problem for students with different sexual orientations and the geographical regions of the students are not questioned are all the limitations of the study.

### Author Contributions

The percentage of the author(s) contributions is presented below. All authors reviewed and approved the final version of the manuscript.

	N.Ü.D.	E.P.K.
C	50	50
D	50	50
S	50	50
DCP	50	50
DAI	50	50
L	50	50
W	50	50
CR	50	50
SR	50	50

C=Concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision.

### Conflict of Interest

The authors declared that there is no conflict of interest.

### Ethical Approval/Informed Consent

Approval (Date: May 10, 2017: Number: 31) was obtained from Ankara Yıldırım Beyazıt University Social and Human Sciences Ethics Committee to conduct the study. The researcher obtained permission from the scales' authors via e-mail. Written permission was obtained from the Nursing Departments of the related faculties and written consent was obtained from the students who agreed to participate in the study. The study was prepared in accordance with the principles of the Declaration of Helsinki.

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