



## Original research

## Perception of compassion and professional values in nursing students: A cross-sectional multivariate analysis from Turkey

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## ABSTRACT

Professional values have been acknowledged as the foundation of nursing care, and compassion is recognized as one of these professional values. The aim of this study was to determine the relationship between compassion and professional values and the factors that affect the perceptions of nursing students. A cross-sectional research design was used. There were two sample groups: 141 first-year and 185 third-year nursing students (N = 326). The data were collected using a Personal Information Form, a Compassion Scale and the Nursing Professional Values Scale-Revised. Study data were evaluated with univariate and multivariate regression analyses. No statistically significant difference was found between the students' compassion levels. At the same time, the mean professional values score of the third-year students was determined to be statistically significantly higher. Furthermore, it was determined that the compassion levels of female students were greater than those of male students, and the perception of professional values of those whose fathers' education levels were high was greater. This study concluded that professional values increased as education levels increased but the level of compassion did not change. It is suggested that nursing education be shaped in order to include factors affecting the perception of professional values and compassion levels.

## 1. Introduction

In recent years, there has been focus on compassion in nursing care (Papadopoulos et al., 2017). The concept of compassion is recognized as one of the professional values (ICN, 2012) that affect nurses' decision making and actions contributing to excellence in the practice of nursing, and facilitate the delivery of nursing care (Curtis, 2015). Jean Watson, who developed the Human Caring Model, describes compassion as the "capacity to bear witness to, suffer with, and hold dear within our heart the sorrow and beauties of the world" (Watson, 2008 p 78). The American Nurses Association (ANA) explicitly states that compassion is one of the ethical principles of nursing: "The nurse practices with compassion and respect for the inherent dignity, worth, and unique attributes of every person" (ANA, 2015).

Professional values are another important concept on which nursing care is based (Kangasniemi et al., 2015). Professional values are of great importance for developing the nursing profession and the quality of care (Dönmez and Özsoy, 2016). They are also used to solve ethical problems, and make decisions on care (Kaya and Boz, 2019; Cetinkaya-Uslusoy et al., 2017; Parandeh et al., 2014). Nurses' professional values

have been created by professional nursing unions and educational institutions, and include nurses' personal value systems (Kaya and Boz, 2019; Gallegos and Sortedahl, 2015). Nurse educators have a primary responsibility to build students' professional identity during their education (Sibandze and Scafide, 2018).

Considering that, compassion and professional values are important in order to provide high quality care in nursing education and practice (Bramley and Matiti, 2014; Dewar and Nolan, 2013; Firth-Cozens and Cornwell, 2009). In literature studies conducted in Turkey and other countries with nursing students concerning professional values and compassion are available (Bahadır-Yilmaz, 2018; Cingöl et al., 2018; Eraydin and Karagozoglul, 2017; Donmez and Ozsoy, 2016; Dewar and Nolan, 2013; Firth-Cozens and Cornwell, 2009; Bramley and Matiti, 2014). In these studies, professional values and compassion levels were evaluated together in nursing students, but it was seen that the relation between these two concepts and the factors affecting them were not investigated. Thus, it was seen that it was important to illuminate the relation between professional values and compassion in nursing students, and to show the factors affecting this.

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## 2. Background

The concept of compassion is an important part of care and a stated expectation of student nurse practice (Curtis, 2013). Researchers indicated that compassionate care can be taught to nursing students with innovatory education methods and tools (Adamson et al., 2009; Adam and Taylor, 2014; Richardson et al., 2015; Tweddell, 2007; Sinclair et al., 2016). Eraydın and Karagözoğlu (2017) showed that students in a traditional curriculum had lower self-compassion, while students in an integrated program had a higher level of self-compassion because they were using active learning methods in smaller groups. Besides, there are difficulties with how nursing educators can be taught such complex concepts of compassion (Curtis, 2013). The reason for the difficulty in teaching compassion is that this concept is thought to be both innate and learned (Goetz et al., 2010). In a qualitative study on the first clinical practice experiences of first-year nursing students, it was reported that the students' compassion perceptions had a positive effect on their nursing practice and their behavior as nurses (Teskereci and Boz, 2019). However, studies have also stated that nursing students can develop their compassion over the course of their education (Tweddell, 2007; Şenyuva et al., 2014). Thus, the effects of education on the compassion level of nursing students should be examined more comprehensively.

It has been found in investigating factors affecting nursing students' compassion levels that one affective variable is gender. Studies examining the effect of gender on compassion have shown that there is a difference between the level of compassion of males and females. Çingöl et al. (2018) stated that mean compassion scale scores of female students were higher than those of male students. Pommier (2011) and Sousa et al. (2017) showed that females presented higher levels of compassion to others than did males. However, studies are limited, and there is a need for more detailed studies on this topic. At the same time, factors affecting compassion levels in nursing students other than gender should be investigated.

Professional values in nursing students include personal and community values. These values are modified and expanded through education, clinical and personal experiences (Bang et al., 2011). Recent studies conducted with nursing students have shown that education can affect professional values in a positive way (Kantek et al., 2017; Kaya et al., 2017), and nursing educators can have an effect on the development of students' professional values as role models (Parandeh et al., 2014). On the contrary, Bang et al. (2011) stated that professional values in Korean undergraduate nursing students were not correlated with academic year or academic performance.

It was seen that the professional values of nursing students were affected by such variables as gender, culture and ethical values. Studies in nursing students found that professionalism included both personal beliefs (Akhtar-Danesh et al., 2013) and values, and was seen to be influenced by cultural differences and ethical values (Alfred et al., 2013; Horton et al., 2007). In a systematic review conducted on professional value levels, it was reported that women's perception of professional value was higher than that of men (Parandeh et al., 2014), while Bang et al. (2011) found no correlation between professional values and gender. Data available on this topic are still lacking, therefore there is a need of further research.

In conclusion, it seems timely to investigate whether perspectives of students' views on compassion and professional values really do change over the period of their education from their first year to their third year of study. As far as is known, there are no previous studies comparing nursing students' perceptions of compassion and professional values and the changes in these concepts over time.

## 3. Methods

### 3.1. Aim

The aim of this study was to determine the relationship between compassion and the professional values of nursing, and the factors that affect the perceptions of nursing students. The study sought to determine a) first and third-year student nurses' perceptions of compassion and professional values, b) the factors that affect compassion and professional values, and c) the relationship between professional nursing values and compassion.

### 3.2. Study design

A cross-sectional research design was used in this study.

### 3.3. Ethical considerations

At the beginning of the study, permission was obtained from the nursing faculty. In addition, ethics committee approval (Approval No:2012-KAEK-20) was obtained from the Clinical Research Ethics Committee of the University. After the purpose of the study was explained to all participants, their written informed consent was taken with an anonymous questionnaire. Participants were informed by the researchers that participation was voluntary and their decision to participate or not would not influence their studies. The researchers knew the participants, but in the period in which the questionnaires were applied, the researchers did not attend the students' classes. This study was conducted in accordance with the principles of the Helsinki Declaration.

### 3.4. Participants and sampling

The sample of the study consisted of the first-year and third-year nursing students at a nursing faculty in the academic year 2017–2018. First-year and third-year nursing students were included in the study to evaluate the students' development process regarding compassion and professional values. Faculties of Nursing in Turkey provide four years of education after high school. First-year students have seven months of theoretical classes and two months of clinical curriculum exposure; third-year students have had a total of 10 months of clinical experience since the beginning of the course and have taken a class which includes professional nursing values. There were a total of 420 first and third-year students in the Faculty of Nursing, 200 students in the first year and 220 students in the third year. Inclusion criteria of the study were a) being a first-year or third-year nursing student, and b) having clinical experience with patients. An incomplete questionnaire, unwillingness to participate, absenteeism and repeating the course were considered to be exclusion criteria. The purposive sampling method was used to reach all of the sample, and 141 first-year and 185 third-year nursing students, a total of 326 students (77.6%), completed the data collection forms fully and were included in the study.

### 3.5. Data collection

The data were collected between 21 May and 1 June 2018, using a Personal Information Form, a Compassion Scale and the Nursing Professional Values Scale-Revised (NPVS-R). These scales were chosen because they have been adapted to Turkish society, and are frequently used in current studies in measuring compassion and professional values in Turkey (Bahadır-Yılmaz, 2018; Çingöl et al., 2018; Cetinkaya-Uslusoy et al., 2017). In addition, the psychometric properties of these scales are appropriate according to COnsensus-based Standards for the selection of health status Measurement Instruments (COSMIN) guidelines (Prinsen et al., 2018). In order to examine the feasibility of the research, the processes were applied as preliminary applications to ten

students. Data were collected in the classroom after the students were given information about the content of the study as well as how to fill in the forms. The data collection period lasted approximately 15–20 min for each of the participants.

The Personal Information Form was developed by the researchers, and contained 16 items that aimed to collect data about the nurses' socio-demographic characteristics and their experience and thoughts about nursing. The Compassion Scale is a five-point Likert scale with 24 items. It was developed by Pommier (2011) and adapted to Turkish by Akdeniz and Deniz (2016). The scale has six subscales titled kindness, indifference, common humanity, separation, mindfulness and disengagement. The kindness subscale (four items) means an individual showing understanding and interest towards others. The common humanity subscale (four items) states that people are not perfect and that they can make mistakes. The mindfulness subscale (four items) shows a balanced approach to an individual's negative feelings. The subscales of indifference (four items), disengagement (four items) and separation (four items) are scored in reverse. Total scores range from 26 to 130, with higher scores indicating a higher compassion level. The Cronbach's alpha coefficient of the scale was found to be 0.85 for the total scale (Akdeniz and Deniz, 2016). In our study, the Cronbach alpha value was found to be 0.89.

The Nursing Professional Values Scale-Revised was developed by Weis and Schank (2009). The scale is a five-point Likert-type scale, and has a total of 26 items in five sub-scales, namely caring, professionalism, activism, justice and trust, with higher scores indicating greater congruency with professional values. The caring subscale (eight items) reflects the respect and safeguard of the patient's rights. The second subscale, professionalism (seven items), reflects the qualities characteristic of a professional. The activism subscale (five items) reflects participation in health-related activities and policy. The justice subscale (three items) reflects equality and diversity issues, and the fifth subscale, truth (three items), reflects responsibility and rationality. The reliability and validity of the Turkish version was tested by Geçkil et al. (2012). The Cronbach's alpha coefficient of the total scale was found to be 0.92 (Geçkil et al., 2012). In our study, the Cronbach alpha value was found to be 0.95.

### 3.6. Data analysis

The data were analyzed with the support of statisticians using the SPSS program package. The sociodemographic characteristics and nursing career choices of the students were expressed as numbers, percentages, and test means. The distribution of variables was tested for normality with kurtosis and skewness. Variables found to be statistically significant in the univariate regression analysis were then taken to multivariate regression analysis. Multivariate regression analysis was separately applied using the Compassion Scale and Nursing Professional Values Scale as the dependent variables. Independent variables were selected using the forward stepwise method. The means, F tests, beta, t and p values are given in the tables of multivariate regression analysis. The chi square test was used to find whether there was a difference between the first and third years in terms of categorical variables. Correlation analysis was also performed to determine the relationship between the scales. The statistical significance value was taken as  $p < 0.05$ .

## 4. Findings

### 4.1. Sociodemographic characteristics and career choices of the nursing students

The sociodemographic characteristics of the students are summarized in Table 1. A total of 386 nursing students participated in this study: 141 (43.3%) of them were first-year students and 185 (56.7%) were third-year students. It was found that 69.6% of the participants

**Table 1**  
Sociodemographic characteristics and career choices of the nursing students.

Characteristics	First year students N (%) 141 (43.3%)	Third year students N (%) 185 (56.7%)	Total	$\chi^2$	P
<b>Gender</b>					
Female	93 (66%)	134 (72.4%)	227 (69.6%)	1.586	0.208
Male	48 (34%)	51 (27.6%)	99 (30.4%)		
<b>Mother's education level</b>					
Illiterate	42 (29.8%)	43 (23.3%)	85 (26.1%)	3.257	0.516
Primary education	73 (51.8%)	102 (55.1%)	175 (53.7%)		
High school or university	26 (18.5%)	40 (21.1%)	66 (20.3%)		
<b>Father's education level</b>					
Illiterate	17 (12%)	20 (10.8%)	37 (11.4%)	7.314	0.198
Primary education	65 (46.1%)	93 (50.3%)	158 (48.5%)		
High school or university	59 (41.4%)	72 (38.9%)	131 (40.2%)		
<b>Family structure</b>					
Authoritarian	15 (10.6%)	19 (10.3%)	34 (10.4%)	5.204	0.157
Democratic	53 (37.6%)	84 (45.4%)	137 (42.0%)		
Protective	68 (48.2%)	69 (37.7%)	137 (42.0%)		
Other	5 (3.5%)	13 (7.0%)	18 (5.6%)		
<b>Desire to leave the nursing profession</b>					
Yes	34 (24.1%)	37 (20.0%)	71 (21.8%)	0.795	0.373
No	107 (75.9%)	148 (80.0%)	255 (78.2%)		
<b>Desire to work as nurses after graduation</b>					
Yes	78 (55.3%)	105 (56.8%)	183 (56.1%)	0.912	0.634
No	11 (7.8%)	19 (10.3%)	30 (9.2%)		
Undecided	52 (36.9%)	61 (33.0%)	113 (34.7%)		
<b>Reason for choosing the profession</b>					
Ease of employment	95 (67.4%)	140 (75.7%)	235 (72.1%)	3.281	0.194
Because it is my ideal	20 (14.2%)	23 (12.4%)	43 (13.2%)		
I was influenced by my family	26 (18.4%)	22 (11.9%)	48 (14.7%)		

\*Other: freelance family, under the control of the father, broken-up families.

were female, 92.6% were between the ages of 19 and 22 years, and all were single. Regarding the education level of the participants' families, it was seen that a large proportion of both their mothers (53.7%) and their fathers (48.5%) were educated to primary school level. According to students' statements, their family structure was mainly protective (42%) and democratic (42%). It was also found that 50.62% of the participants lived in the student hostel, and 28.5% lived with their families (Table 1).

A majority of students (56.4%) had no healthcare personnel in their families. It was found that 68.1% of the students had obtained information on the nursing profession mostly from the internet, 36.8% from their social environment and 24.8% from nurses they knew before they chose the profession. It was seen that 20% of third-year students and 24.1% of first-year students stated that they desire to leave their profession. The proportions of first and third-year students with a desire to work as nurses after graduation were seen to be 55.3% and 56.8% respectively. A large proportion of the students (72.1%) stated that they had chosen the nursing profession because it would be easy to find a job (Table 1).

### 4.2. Compassion and professional nursing values levels of nursing students

The total mean compassion score of the first-year students was found to be  $97.90 \pm 13.38$ , and that of the third-year students  $96.57 \pm 13.12$ . It was seen that the scores on the total compassion scale and its sub-scales of the two classes were close to each other and that there was no statistically significant difference between them

**Table 2** Multivariate regression analysis of the relationship between student-related factors and the Compassion Scale.

	Kindness			Indifference			Common humanity			Separation			Mindfulness			Disengagement			Total		
	Beta	t	p	Beta	t	p	Beta	t	p	Beta	t	p	Beta	t	p	Beta	t	p	Beta	t	p
Gender	-0.134	-2.45	0.015	0.232	4.44	0.000	-0.152	-2.77	0.006	0.207	3.85	0.000	-0.136	-2.49	0.013	0.176	3.32	0.001	-0.237	-4.48	0.000
Mother's education level	0.050	0.88	0.375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Family structure	0.036	0.66	0.508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Socioeconomic level	-0.035	-0.63	0.525	0.041	0.78	0.431	-	-	-	-0.045	-0.84	0.399	-	-	-	0.076	1.43	0.153	-0.019	-0.354	0.724
Place of residence	0.095	1.73	0.083	-	-	-	-	-	-	-0.016	-0.298	0.766	0.127	2.31	0.021	0.005	0.095	0.924	0.070	1.32	0.185
Obtained information on the profession	-0.129	-2.35	0.019	0.068	1.27	0.203	-	-	-	0.074	1.34	0.179	-	-	-	0.130	-2.39	0.017	-0.137	-2.54	0.011
Desire to change from nursing profession	-	-	-	0.170	3.05	0.002	-	-	-	-0.037	-0.632	0.528	-	-	-	-0.052	-0.905	0.366	0.032	0.55	0.581
Desire to work as a nurse after graduation	-0.011	-0.204	0.838	-0.137	-2.44	0.015	-	-	-	0.151	2.81	0.005	-	-	-	0.176	3.23	0.001	-0.115	-2.13	0.034
Reason for choosing the profession	-	-	-	0.001	0.027	0.979	-	-	-	-	-	-	-	-	-	0.004	0.070	0.944	-	-	-

Bold values denotes p values are < 0.05. \*Multivariate regression analysis was performed separately for six subscales of Compassion scale and total scale scores.

(t = 0.898; P = 0.370).

The mean scores on the professional values scale of the first and third-year students were found to be 99.45 ± 15.68 and 104.49 ± 16.56 respectively. This difference was statistically significant, with the third-year students' professional values higher (Beta 0.150, t = 2.74, p = 0.0006). In addition, a statistically significant difference was found between the two groups on the sub-scales of professionalism (Beta 0.141, t = 2.55, p = 0.011), justice (Beta = 0.26, t = 2.30, p = 0.022) and truth (Beta = 0.286, t = 5.36, p = 0.000), with the third-year students having higher mean scores on these sub-scales.

4.3. The relationship between compassion and its determinants

Table 2 shows the multivariate analysis of the relationship between sociodemographic characteristics and career choices of the nursing students and the Compassion Scale. A significant difference was found between gender and all the sub-scales of the compassion scale (Beta = -0.237, t = -4.48, p = 0.000; Table 2). The scores of the female students on the subscales of indifference, separation and disengagement were found to be lower than those of the male students, while their scores for kindness, common humanity and mindfulness were higher (p < 0.05). It was found that their scores on obtaining information on the profession were independently related to their kindness subscale scores, and that their desire to change their department was independently related to their indifference sub-scale scores. Also, obtaining information about the profession and the total compassion score were found to be correlated. Students who had received information about the profession had a higher total compassion score than who had not received information (Table 2).

4.4. The relationship between nursing professional values and its determinants

Table 3 shows the multivariate analysis of the relationship between student-related factors and the Nursing Professional Values scale. It was found that the scores of female students on the subscale of caring were higher than those of male students, and that there was a correlation between the subscale of activism and the mother's education level, and between justice and the father's education level. Also, the father's education level was independently related to the total Nursing Professional Values score (Table 3). It was seen that as the father's education level rose, the student's professional values mean score also increased. At the same time, it was seen that neither the students' desire to leave their profession nor their desire to work as nurses after graduation affected their perception of professional values.

4.5. The relationship between compassion and Nursing Professional Values

Table 4 shows the relationship between the Compassion Scale and the Nursing Professional Values Scale. No correlation was found between the subscale of justice on the Professional Values Scale and the subscales of indifference, common humanity and disengagement on the Compassion Scale, but a moderate positive correlation was found between all other subscales. In addition, a statistically significant correlation was found between the Compassion Scale and the Professional Values Scale (r = 0.361, p = 0.000) (Table 4).

5. Discussion

This study gave an overview of the phenomenon of compassion and professional nursing values in Turkish nursing students. Also, the factors that affect compassion and professional nursing values and their relationships were evaluated. This study is the first to our knowledge to evaluate the relationship between professional values and compassion in nursing students.

**Table 3**  
Multivariate regression analysis of the relationship between student-related factors and the Nursing Professional Values Scales.

	Nursing Professional Values Subscales and Total Scale Score																	
	Caring			Professionalism			Activism			Justice			Truth			Total		
	Beta	t	p	Beta	t	P	Beta	t	P	Beta	t	p	Beta	t	p	Beta	t	p
Gender	-0.144	-2.61	<b>0.009</b>	-	-	-	-	-	-	-0.092	-1.67	0.096	-	-	-	-	-	-
Year of study	-	-	-	0.141	2.55	<b>0.011</b>	-	-	-	0.26	2.30	<b>0.022</b>	0.286	5.36	<b>0.000</b>	0.150	2.74	<b>0.0006</b>
Age	-	-	-	-	-	-	-	-	-	-	-	-	0.120	1.75	0.081	-	-	-
Mother's education level	-	-	-	0.090	1.63	0.104	0.111	2.00	<b>0.046</b>	-	-	-	0.061	1.14	0.255	0.033	0.500	0.617
Father's education level	0.103	1.859	0.064	-	-	-	-	-	-	0.135	2.46	<b>0.014</b>	-	-	-	0.121	2.22	<b>0.027</b>
Family structure	-	-	-	-	-	-	-	-	-	-	-	-	-0.024	-0.45	0.648	0.015	0.267	0.789
Socioeconomic level	-0.060	-1.09	0.277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Desire to work as a nurse after graduation	-0.036	-0.65	0.512	-	-	-	-0.096	-1.73	0.083	-0.076	-1.39	0.166	-	-	-	-0.082	-1.51	0.131

Bold values denotes p values are < 0.05. \*Multivariate regression analysis was performed separately for five subscales of Nursing Professional Values Scales and total scale score.

5.1. Compassion of nursing students and its determinants

It was seen in our study that there was no significant difference between the mean compassion scores of the first and third-year nursing students. The reason for this is that there is no education program or method in our nursing faculty to directly develop compassion. It is seen that innovative educational methods and curriculums intended to increase the level of compassion in nursing education are effective (Eraydin and Karagözoğlu, 2017; Richardson et al., 2015). Supporting this, there are studies in the literature on whether compassion levels can be raised in nursing students by education (Adamson et al., 2009; Adam and Taylor, 2014; Richardson et al., 2015; Sinclair et al., 2016) or by experience (Tweddell, 2007). For teaching compassion to nursing students, Durkin et al. (2018) showed that the use of online and digital-based reflective learning can be an effective. Eraydin and Karagözoğlu (2017) showed that active learning methods with an integrated program can be effective in developing compassion in nursing students. It is reported that students studying in integrated programs have a chance to learn more with active learning methods in smaller groups, they develop their problem-solving skills, and this in term contributes to raising their compassion levels. In addition, Cruess et al. (2008) indicated that nurse educators play an important role in the teaching of compassion. Educators can foster the practice of compassionate nursing care in students by supporting students in clinical practice and by being an effective model (Straughair, 2012).

In our study, it was found that the mean compassion level scores of female students were higher than those of male students. Similar to our study, other studies found that the compassion levels were higher in

females (Çingöl et al., 2018; Pommier, 2011; Sousa et al., 2017). Although there are some gender-specific characteristics in women and men, society and culture are the main factors determining the gender patterns and attitudes of individuals (Ersay, 2009). Topuz and Erkanli (2016) indicated that Turkish women were characterized as passive and dependent, expecting to give happiness, responsible and enabling life to go on, while men were characterized as active leaders, protective, competitive, acting logically and not showing their feelings, and demanding attention. In Turkey, the reason why the compassion level of female students was higher than male students was that socio-cultural pressure leads women to play a more compassionate role, while men are expected to be more resilient (Ersay, 2009; Uyguç, 2003).

The mean disengagement scores of our students who did not desire to work as nurses after graduation and the mean indifference scores of students who desired to leave the nursing profession were found to be high. Indifference and disengagement are the negative constructs on the compassion scale (Pommier, 2011). Thus, it can be said that the levels of compassion of students with low professional attachment to their profession are negatively affected. Bradshaw (2011) indicated that compassion has been viewed as a quality associated with an individual's characteristics. This is thought to derive from students who do not have positive thoughts about the profession not wanting to show compassion as being innate. In the literature, no study was found on the effect of the desire to work as a nurse after graduation or the desire to leave the nursing profession on compassion.

**Table 4**  
The relationship between the Compassion Scale and the Nursing Professional Values Scale.

Nursing Professional Values Scale	Compassion Scale						
	Kindness	Indifference	Common humanity	Separation	Mindfulness	Disengagement	Total
	r/p	r/p	r/p	r/p	r/p	r/p	r/p
<b>Caring</b>	0.359/0.000	-0.192/0.001	0.317/0.000	-0.193/0.000	0.383/0.000	-0.237/0.000	0.381/0.000
<b>Professionalism</b>	0.336/0.000	-0.166/0.003	0.237/0.000	-0.201/0.000	0.335/0.000	-0.203/0.000	0.335/0.000
<b>Activism</b>	0.269/0.000	-0.148/0.008	0.182/0.001	-0.178/0.001	0.293/0.000	-0.211/0.000	0.290/0.000
<b>Justice</b>	0.299/0.000	-0.200/0.000	0.210/0.000	-0.210/0.000	0.314/0.000	-0.242/0.000	0.335/0.000
<b>Truth</b>	0.186/0.000	-0.061/0.275	0.134/0.016	-0.055/0.321	0.212/0.000	-0.087/0.116	0.166/0.003
<b>NPVS Total</b>	0.347/0.000	-0.182/0.001	0.264/0.000	-0.201/0.000	0.366/0.000	-0.232/0.000	0.361/0.000

## 5.2. Nursing professional values and their determinants in nursing students

It was seen in our study that the third-year students had higher mean scores on professional values than the first-year students. It is thought that this difference arises from the fact that third-year students have taken classes throughout their education on care, professional ethical values and professional values, and have had at least 14–15 weeks of clinical practice in the autumn semester. Similar to our study, it has been stated in other studies that professional values are gained as a result of education and experience (Cetinkaya-Uslusoy et al., 2017; Leners et al., 2006; Vezeau, 2006). Contrary to our study, Bang et al. (2011) stated that professional values in Korean first and fourth-year undergraduate nursing students were not correlated with academic year or academic performance. Professional values are not only affected by academic year and academic performance. As well as duration of education and experience, they are affected by a large number of variables such as personal and societal values, nursing school curricula, education quality, clinical experience, and the duration of clinical practice (Kaya and Boz, 2019; Çetinkaya et al., 2017; Bang et al., 2011). It is thought that the students' 12 years of basic education followed by four years of a nursing degree program and the inclusion in the faculty curriculum of courses such as Nursing History and Deontology and Health Care Ethics have had the effect of showing a difference in education and experience in professional values in our study. Also, the development of students' professional values takes time, and continues throughout the education process (Gallegos and Sortedahl, 2015). In this way, nursing students learn to express them with their behaviors by adopting professional values in the process of forming a nursing identity (Schmidt and McArthur, 2018).

The results of our study show that the professional values of nursing students are affected by their gender. It is thought that female students' professional values are found to be higher than those of males because men's and women's values are different from each other (Ersoy, 2009). In the literature, there are different study results for the relationship between gender and perception of professional values. Similar to our study, studies by Parandeh et al. (2014) and Geçkil et al. (2012) showed that professional values were higher in female students. It is thought that females place more value than male students on such values as taking an interest in other people, equality, social approval, helpfulness, kindness, courtesy, friendliness and responsibility (Uyguç, 2003). Contrary to our study, Bang et al. (2011) found no relationship between gender and professional values. Data available on the relationship between students' professional values and gender are still lacking, and therefore there is a need for further qualitative and quantitative research.

Another determinant in nursing students that has an impact on the professional values of the students is their parents' education level. It was also found that the level of the sub-scale of activism rose as the mother's education level increased. Also, the level of the sub-scale of justice and professional values rose as the father's education level increased. It is thought that a higher level of mother's education in Turkish society is an indicator of family prosperity. This has also been reported as being an important factor in increasing academic success, as the student's physical and social environments are widened. It has been reported that individuals whose father's education level is high may be better guided as students (Ural and Çınar, 2014).

## 5.3. The relationship between the Compassion Scale and the Nursing Professional Values Scale in the nursing students

A statistically significant positive correlation was found in our study between the Compassion Scale and the Professional Values Scale. No study was found in the literature which examined the relationship between compassion and professional values. In this way, determination of the relationship between these two concepts demonstrates the strong and original aspect of the study. The effect on professional values of

compassion, seen as an individual value, was emphasized in the model Development and Defining of Professional Values Model in Nursing, which was previously developed on professional values in nursing (Kaya and Boz, 2019). The International Council of Nurses (ICN), the Canadian Nurses Association (CNA) and the ANA indicated that compassion is one of the important values in professional nursing (ICN, 2012; ANA, 2015; CNA, 2017). Professional nursing values are seen as a framework duty relating to the standards, practice and evaluation of the profession according to the principles of human dignity, honesty, altruism and justice. In accordance with this, compassion in the nursing profession is also seen as an important value which is part of professional standards and the rules of practice (Schmidt and McArthur, 2018; Henderson and Jones, 2017). It has been stated that for a person who has chosen the nursing profession, it is necessary to have such values as care and compassion (Sellman, 2011). More studies are needed on this topic because compassion and professional values in nursing students are important for developing nursing care and because there are no studies investigating the relationship between these concepts.

## 5.4. Limitations

The study had some limitations. These were: 1) it was conducted in Turkey at a faculty using the classic education model, 2) the study sample consisted of students from Turkish culture 3) the study was limited to the students who were in Nursing Faculty between May–June 2018. All of these factors affect the generalizability of the results.

## 6. Conclusion

It was concluded in this study that there was a correlation between students' professional values and their education level, and that as education levels rose, students' professional values also rose. However, the level of compassion did not change with a rise in education level. Various factors such as profession and parental education level were found to affect compassion and professional values, and a positive correlation was shown between compassion and professional values. In the light of these results, it is suggested that nursing education should be structured in line with factors affecting the perception of professional values and compassion levels, and that programs should be developed on the topic and tested by research.

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## Declaration of competing interest

No conflict of interest has been declared by the authors.

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