

Have we been able to improve the conscientious intelligence levels of nursing students sufficiently?

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Abstract

Purpose: This study was aimed at comparing the conscientious intelligence levels of nursing students and determining the factors affecting their conscientious intelligence.

Design and Methods: Two hundred and forty nursing students were involved in the study.

Findings: There were no statistically significant differences between the first and fourth-year students in terms of the mean scores they obtained from the compassion, responsibility toward the creator, conscious awareness, and social sensitivity sub-dimensions. Of the students, those who chose the profession willingly, those who were women and those who did not perceive nursing as a profession just to earn money obtained higher mean scores in the Conscientious Intelligence Scale.

Practice Implications: The results of the study revealed that Nurse Academics should make more attempts to improve students' conscientious intelligence.

KEYWORDS

conscientious intelligence, nursing, nursing education, nursing education curriculum, nursing students

1 | INTRODUCTION

Conscience is a humane and moral emotion that determines one's behavior in certain situations (Lamb et al., 2019a), and it is an element that can direct an individual toward the right behavior (Lak et al., 2018). Conscience judges the behaviors that an individual has exhibited or will exhibit by taking effect before and/or after an action. It warns the individual before they decide on their action. Moreover, it approves or disapproves of the behaviors of the individual after he or she makes a decision. Individuals experience peace of mind/emotional satisfaction when their behaviors are approved cognitively, they experience a guilty conscience, remorse, and emotional pain when their behaviors are disapproved (Boz, 2020). Given their working environment, nurses have numerous opportunities to provide effective nursing care that can affect people's lives. Previous studies have shown that nurses use their conscience as a guide to distinguish right from wrong and make ethically sound

decisions in every situation where they have difficulty in making decisions (Dobrowolska et al., 2020; Lamb et al., 2019a). Conscience is a core concept of nursing ethics, which serves as the basis for nursing, improves nursing care in terms of ethics, and positively affects nursing practices (Lak et al., 2018). Conscience lies at the heart of nursing practices and allows nurses to be attentive and careful not to harm people while providing care (Lak et al., 2018; Shahriari et al., 2016). A study shows that nurses who listen to the voice of their conscience experience less conflict in conscientious issues in their practices and can achieve high-quality care more easily (Lamb et al., 2019a).

In his book *Frames of Mind*, Gardner (2010) defined intelligence as the unique abilities and skills developed by each individual to live in a changing world and to keep up with the changes. Gardner (2010), who introduced the theory of multiple intelligences, talks about eight areas of intelligence. Zohar and Marshall (2000) define the phrase "Spiritual Intelligence" as a new

and different type of intelligence referring to an individual's creativity, ability to change the rules, ability to soften strict rules with their compassion. Tarhan (2015) believed that it was more appropriate to call this type of intelligence "conscientious" instead of "spiritual" in an attempt to reach wisdom in the age of information. Tarhan (2015) argues that conscientious intelligence enables a person to listen to his or her inner voice and to be aware of his or her intrinsic and extrinsic responsibilities. It was determined by Akti et al. (2017) that conscientious intelligence is a valid type of intelligence and that conscientious intelligence is a measurable intelligence. In addition, according to Akti et al. (2017), the values of conscientious intelligence refer to listening to one's inner voice, intrinsic-extrinsic responsibility, accountability, responsibility toward the creator, having ethical values, using moral reasoning, wisdom, humility, honesty, and principlism.

It is an inevitable fact that conscientious intelligence, which has an important place in human relations, is also important in nurse-patient relations (Sengül & Bulut, 2020). In a study, it was found that as the conscientious intelligence level of healthcare professionals increased, so did their ability to meet patients' expectations, and to improve their problem-solving skills (Arslanoglu & Tabur, 2019). In a study conducted with nurses in our country, Turkey, it was determined that nurses with a higher level of conscientious intelligence displayed better care behaviors in case of trust, respect, and commitment were ensured between the patient and the nurse, and they presented professional knowledge skills in a quality manner (Ozcan, 2021). In various studies conducted with nurses, "being conscientious" is considered as an indicator of professionalism in the provision of effective patient care only if knowledge and skills are presented to the patient within the framework of courtesy, compassion, interest, and understanding, a good relationship is established between the patient and the nurse, which ensures the improvement of patient satisfaction, and thus conscience is observed as an incentive force for patient care, limiting factor for bad behavior and solution to patients' problems perceived as difficult (Alipour Hamze Kandi & Zeinali, 2017; Jensen & Lidell, 2009).

Conscientious intelligence is affected by one's family's attitudes and behaviors, religious beliefs, and lifelong education (Butts, 2019). We can develop a conscience by bringing conscience to the forefront in the education of an individual. Training on conscience begins in the family and continues at school. During this time, conscientious development, which is a dynamic process, is shaped by the integration of the individual's value and belief system, culture, religion, and life experiences, in addition to education and learning (Hannani et al., 2018). According to Freshwater and Stickley (2004), a nursing education curriculum that does not adopt spiritual values such as conscience cannot convey the importance of interpersonal relationships and cannot fully teach the basic skills of nursing practices to the students. Thus, the necessity of integrating conscientious intelligence into the nursing education curriculum is strongly advocated (Nagel et al., 2016). However, the curriculum for nursing students in

Turkey does not include any elective or compulsory courses on conscientious intelligence, although, within the scope of the deontology course, the concept of conscience is briefly mentioned as a subtopic. There is no theoretical or practical training on conscientious intelligence at the school where the research was conducted. However, this is not exclusive to Turkey. The concept of conscientious intelligence is not sufficiently included in the education curricula of nursing schools in other countries of the world either. Preparing students to take over job responsibilities is one of the most challenging duties of nursing schools (Rahkar Farshi et al., 2015). Education given to students in the nursing school is stated to be of such good quality that it should improve not only their emotional intelligence (Beauvais et al., 2011) but also their level of conscientious intelligence. All these suggest that the level of conscience of nursing students should be raised during their education. Although conscience is important in nursing, very few studies have focused on this topic (Jasemi et al., 2019; Lamb et al., 2019a). Several literature reviews have revealed that a few studies have been conducted to investigate nursing students' conscientious intelligence levels only (Dur et al., 2021; Sengül & Bulut, 2020). Evaluating the conscience of nurses who make decisions likely to affect human life during school years is thought to be important. In the present study, the aim was to compare first-year nursing students' conscientious intelligence levels with those of fourth-year students who were about to graduate. What we aimed to do was to investigate whether our nursing education curriculum had any effects on students' conscientious intelligence levels. Witnessing the difference between the conscientious intelligence levels of the students who received nursing education for 4 years and those of the students who were to start nursing education gave us the opportunity to reevaluate ourselves.

1.1 | Study questions

In the present study, it was aimed to find answers to the following questions:

- Have we been able to improve the conscientious intelligence levels of nursing students sufficiently?
- What factors affect students' conscientious intelligence levels?

2 | METHODS

2.1 | Ethical consideration

The study was carried out in accordance with the Helsinki Declaration. Before the study was conducted, approval was obtained from the Clinical Research Ethics Committee of Erzincan Binali Yildirim University in Turkey (dated April 11, 2019 and numbered 33216249-604.01.02-E.18713).

2.2 | Study design and setting

This cross-sectional, comparative, and descriptive study was conducted with first and fourth-year nursing students at the Faculty of Health Sciences of a public university in Turkey between May 3, 2019, and September 23, 2019. Before the volunteer students filled in the research forms, they were verbally informed that their personal information would be kept confidential in accordance with the principle of confidentiality and that they could withdraw from the study at any time. Then the written informed consent was obtained from them.

2.3 | Exclusion and inclusion criteria

The inclusion criteria were as follows: being a first or fourth-year nursing student, and being able to communicate. Being able to read and write in Turkish, and understand Turkish and perceive the items in the scale well are among the inclusion criteria of our research. The exclusion criteria were as follows: submitting a questionnaire with missing data and being unwilling to continue with the study. Second- and third-year students were not included in this study because the authors thought that the data obtained from the new students and from the students who were about to graduate would provide sufficient information.

2.4 | Sampling and study respondents

In the present study, the authors included all the students who met the criteria without calculating the sample size. The study population consisted of 107 students who started their first year and 153 students who were about to complete their fourth year. The response rate was 95% for the first-year students and 90% for the fourth-year students. The sample of the study consisted of 240 students (102/107 and 138/153).

2.5 | Data collection tools

The data were collected from the participating students by administering the Student Information Form and Conscientious Intelligence Scale (CIS).

The *Student Information Form* comprised seven items. While three items question their socio-demographic characteristics such as age, sex, and year at school, the remaining four items question their profession related characteristics whether they choose nursing willingly, whether they value nursing, whether they intend to leave nursing, and whether perceive nursing as a profession just to earn money.

The *CIS*, a 5-point Likert-type scale, developed by Akti et al. (2017) comprises 32 items and 7 sub-dimensions. The sub-dimensions of the scale are ethical values (five items), moral

sensitivity (five items), the responsibility to the creator (four items), mercy (five items), conscious awareness (five items), social sensitivity (four items), and wisdom (five items). As the total score obtained from the scale increases, so does the level of conscientious intelligence increases (Akti et al., 2017).

2.5.1 | Validity and reliability

Akti et al. (2017) found the internal coefficient of consistency of the CIS as 0.86. The scale is a valid and reliable tool specifically developed for the Turkish culture and applicable to nurses. In our study, Cronbach's alpha coefficient value was 0.82 for the CIS.

2.5.2 | Data collection

The data were collected by the researcher when the students were available. During data collection, the respondents were not given the questionnaire to fill in at their convenience; this was to avoid co-respondents' influence. Rather, the researcher engaged with each respondent individually for about 10–15 min to complete the questionnaire and collected it immediately.

2.6 | Data analyses

The Statistical Package for the Social Sciences (SPSS 20.0) was used to analyze the study data. Statistical significance was established at a p -value of ≤ 0.05 . Shapiro–Wilk normality test used to find out whether the data were normally distributed ($p > 0.05$) demonstrated that the data were normally distributed. Although descriptive methods (number, percentage, arithmetic mean, standard deviation, minimum value, and maximum value) were used for the statistical analysis of the study data, the t -test was used to compare the difference between the mean scores in the independent groups. The one-way ANOVA was used to compare three or more independent groups, whereas the Honestly Significant Difference (HSD) post hoc test was used to determine which of the groups were different.

3 | RESULTS

3.1 | Characteristics of the participants

The mean age of the students participating in the study was 20.77 ± 2.12 . Of them, 72.5% were female, 57.5% were fourth-year students, 58.8% stated that they chose the nursing profession willingly, 54.6% liked nursing, 55% did not want to quit nursing, 56.3% did not perceive nursing as a profession to earn income, and 58.8% stated that the poor status of the nursing profession in the society was due to attitudes displayed by nurses and, nurse trainers, and nursing students' dislike of their profession (Table 1).

TABLE 1 Findings related to demographic characteristics of the participating students ($n = 240$)

	<i>n</i>	%
<i>Sex</i>		
Women	174	72.5
Man	66	27.5
<i>Academic at school</i>		
First year	102	42.5
Fourth year	138	57.5
<i>Choosing the nursing profession willingly</i>		
Yes	141	58.8
No	99	41.3
<i>Valuing nursing</i>		
Yes	131	54.6
No	26	10.8
Undecided	83	34.6
<i>Having intention to leave nursing</i>		
Yes	37	15.4
No	132	55.0
Undecided	71	29.6
<i>Perceiving nursing as a job just to make money</i>		
Yes	30	12.4
No	135	56.3
Undecided	75	31.3
<i>Age</i>		
($\bar{X} \pm SD$)	20.77	± 2.12

3.2 | Mean scores of CIS and their sub-dimensions

The mean scores the participating students obtained from the overall CIS and its sub-dimensions were as follows: 133.55 ± 15.76 from the overall scale, 19.06 ± 3.44 from the ethical values sub-dimension, 22.31 ± 3.69 from the moral sensitivity sub-dimension, 16.12 ± 2.90 from the responsibility toward the creator sub-dimension, 22.29 ± 3.55 from the compassion sub-dimension, 20.37 ± 3.04 from the conscious awareness sub-dimension, 16.78 ± 2.62 from the social sensitivity sub-dimension, and 16.60 ± 2.78 from the wisdom sub-dimension. Accordingly, the two highest-scored sub-dimensions of CIS were the moral sensitivity (22.31 ± 3.69) and compassion (22.29 ± 3.55) sub-dimensions (Table 2).

3.3 | Results on the comparison of the students' conscientious intelligence levels and other factors

There were not any statistically significant differences between the first and fourth-year students in terms of the mean scores they

TABLE 2 Descriptive student statistics for the Conscientious Intelligence Scale and its sub-dimensions ($n = 240$)

	<i>n</i>	\bar{X}	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
Ethical values	240	19.06	3.44	7	25
Moral sensitivity	240	22.31	3.69	5	25
Responsibility toward the creator	240	16.12	2.90	4	20
Compassion	240	22.29	3.55	5	25
Conscious awareness	240	20.37	3.04	7	25
Social sensibility	240	16.78	2.62	6	20
Wisdom	240	16.60	2.78	7	20
CIS total	240	133.55	15.76	55	158

obtained from the compassion, responsibility toward the creator, conscious awareness, and social sensitivity sub-dimensions ($p > 0.05$). On the other hand, the mean scores obtained from the ethical values, moral sensitivity, and wisdom sub-dimensions by the nursing students who were about to graduate were higher than were those who had just started nursing education ($p < 0.05$; Table 3).

There was no significant correlation between the variables such as the students' year at school, whether they chose nursing willingly and whether they perceived nursing as a profession just to earn money ($p > 0.05$). However, there was a significant correlation between the variables such as the students' year at school and whether they valued nursing ($p < 0.05$). The study showed that the students who had just completed nursing education valued nursing more (61.6%, $n = 85$) than did those who had just started nursing education (45.1%, $n = 46$). There was also a significant correlation between the variables such as the students' year at school and whether they had the intention to leave nursing ($p < 0.05$; Table 4).

3.4 | Results on the factors affecting students' conscientious intelligence levels

Of the participants, the female ones obtained higher mean scores from the overall CIS and the moral sensitivity, compassion, and wisdom sub-dimensions of the CIS than did the male ones ($p < 0.05$). The students who chose nursing willingly obtained higher mean scores from the CIS than did the students who chose nursing unwillingly ($p < 0.05$). The students who valued nursing obtained higher mean scores from the CIS than did the students who did not value nursing or were undecided about it ($p < 0.05$). The students who did not perceive nursing as a profession just to earn money obtained higher mean scores from the CIS than did the students who perceived nursing as a profession just to earn money or were undecided about it ($p < 0.05$; Table 3).

TABLE 3 Correlation between students' Conscientious Intelligence Scale (CIS) scores and their characteristics

	Ethical values $\bar{X} \pm SD$	Moral sensitivity $\bar{X} \pm SD$	Responsibility toward creator $\bar{X} \pm SD$	Compassion $\bar{X} \pm SD$	Conscious awareness $\bar{X} \pm SD$	Social sensitivity $\bar{X} \pm SD$	Wisdom $\bar{X} \pm SD$	CIS total $\bar{X} \pm SD$
<i>Sex</i>								
Female	19.10 ± 3.14	22.77 ± 3.09	16.28 ± 0.61	22.76 ± 3.04	20.48 ± 2.77	17.01 ± 2.34	16.88 ± 2.40	135.31 ± 13.14
Male	18.95 ± 4.16	21.10 ± 4.76	15.68 ± 3.54	21.06 ± 4.42	20.07 ± 3.65	16.18 ± 3.18	15.84 ± 3.50	128.90 ± 20.57
<i>t/p</i>	<i>t</i> = 0.274 <i>p</i> = 0.785	<i>t</i> = 2.635 <i>p</i> = 0.010	<i>t</i> = 1.204 <i>p</i> = .0209	<i>t</i> = 2.881 <i>p</i> = 0.005	<i>t</i> = 0.832 <i>p</i> = 0.408	<i>t</i> = 1.928 <i>p</i> = 0.057	<i>t</i> = 2.215 <i>p</i> = 0.029	<i>t</i> = 2.354 <i>p</i> = 0.021
<i>Year at school</i>								
First year	18.50 ± 3.91	21.52 ± 4.41	16.29 ± 3.04	21.95 ± 4.40	20.10 ± 3.78	16.61 ± 3.19	16.06 ± 3.43	131.06 ± 19.97
Fourth year	19.48 ± 2.99	22.89 ± 2.93	15.99 ± 2.80	22.55 ± 2.75	20.57 ± 2.34	16.90 ± 2.10	16.99 ± 2.10	135.39 ± 11.45
<i>t/p</i>	<i>t</i> = -2.121 <i>p</i> = 0.035	<i>t</i> = -2.70 <i>p</i> = 0.008	<i>t</i> = 0.79 <i>p</i> = 0.428	<i>t</i> = -1.21 <i>p</i> = 0.227	<i>t</i> = -1.10 <i>p</i> = 0.275	<i>t</i> = -0.792 <i>p</i> = 0.429	<i>t</i> = -2.40 <i>p</i> = 0.017	<i>t</i> = -1.96 <i>p</i> = 0.052
<i>Choosing the nursing profession willingly</i>								
Yes	19.02 ± 3.32	22.53 ± 3.55	16.49 ± 2.57	22.85 ± 3.19	20.63 ± 2.66	17.15 ± 2.43	16.88 ± 2.47	135.58 ± 13.86
No	19.13 ± 3.62	22.00 ± 3.88	15.58 ± 3.26	21.49 ± 3.87	20.01 ± 3.49	16.25 ± 2.80	16.19 ± 3.14	130.66 ± 17.80
<i>t/p</i>	<i>t</i> = -2.43 <i>p</i> = .0808	<i>t</i> = 1.099 <i>p</i> = 0.273	<i>t</i> = 2.317 <i>p</i> = 0.022	<i>t</i> = 2.876 <i>p</i> = 0.004	<i>t</i> = 1.491 <i>p</i> = 0.138	<i>t</i> = 2.595 <i>p</i> = 0.010	<i>t</i> = 1.914 <i>p</i> = 0.057	<i>t</i> = 2.401 <i>p</i> = 0.017
<i>Valuing nursing</i>								
Yes (1)	19.33 ± 3.15	22.67 ± 3.39	16.25 ± 2.70	22.82 ± 2.97	20.91 ± 2.32	17.25 ± 2.17	17.08 ± 2.21	136.33 ± 12.58
No (2)	18.42 ± 4.26	22.19 ± 2.71	15.23 ± 3.62	20.50 ± 3.75	19.61 ± 3.20	15.80 ± 2.72	15.76 ± 3.32	127.53 ± 14.19
Undecided (3)	18.84 ± 3.60	21.78 ± 4.33	16.19 ± 2.94	22.02 ± 4.10	19.75 ± 3.77	16.34 ± 3.07	16.09 ± 3.25	131.04 ± 19.53
<i>F/p</i>	<i>F</i> = 1.027 <i>p</i> = 0.360	<i>F</i> = 1.492 <i>p</i> = 0.227	<i>F</i> = 1.383 <i>p</i> = 0.253	<i>F</i> = 5.191 <i>p</i> = 0.006	<i>F</i> = 4.730 <i>p</i> = 0.010	<i>F</i> = 5.200 <i>p</i> = 0.006	<i>F</i> = 4.634 <i>p</i> = 0.011	<i>F</i> = 5.155 <i>p</i> = 0.006
Difference*	-	-	-	1 > 2,3	1 > 2,3	1 > 2,3	1 > 2,3	1 > 2,3
<i>Having intention to leave nursing</i>								
Yes	18.78 ± 3.14	22.64 ± 2.56	15.78 ± 2.97	21.89 ± 3.30	20.05 ± 3.03	16.48 ± 2.58	16.27 ± 2.72	131.91 ± 13.16
No	19.07 ± 3.33	22.26 ± 3.70	16.34 ± 2.66	22.62 ± 3.43	20.77 ± 2.87	17.03 ± 2.55	16.90 ± 2.59	135.01 ± 14.54
Undecided	19.19 ± 3.82	22.22 ± 4.17	15.87 ± 3.27	21.90 ± 3.86	19.80 ± 3.26	16.47 ± 2.76	16.21 ± 3.10	131.69 ± 18.82
<i>F/p</i>	<i>F</i> = 0.175 <i>p</i> = 0.840	<i>F</i> = 0.183 <i>p</i> = 0.833	<i>F</i> = 0.911 <i>p</i> = 0.403	<i>F</i> = 1.233 <i>p</i> = 0.293	<i>F</i> = 2.627 <i>p</i> = 0.074	<i>F</i> = 1.303 <i>p</i> = 0.274	<i>F</i> = 1.737 <i>p</i> = 0.178	<i>F</i> = 1.265 <i>p</i> = 0.284
<i>Perceiving nursing as a job just to make money</i>								
Yes (1)	18.41 ± 4.65	21.10 ± 4.67	15.72 ± 3.48	21.03 ± 3.84	19.31 ± 3.71	15.72 ± 3.16	14.93 ± 3.75	126.24 ± 17.11
No (2)	19.10 ± 3.14	22.79 ± 3.35	16.50 ± 2.71	22.66 ± 3.72	20.72 ± 2.90	17.12 ± 2.62	16.87 ± 2.58	135.78 ± 15.48
Undecided (3)	19.25 ± 3.45	21.90 ± 3.75	15.58 ± 2.92	22.10 ± 2.97	20.16 ± 2.93	16.57 ± 2.26	16.74 ± 2.50	132.33 ± 14.91
<i>F/p</i>	<i>F</i> = 0.635 <i>p</i> = 0.531	<i>F</i> = 3.222 <i>p</i> = 0.042	<i>F</i> = 2.735 <i>p</i> = 0.067	<i>F</i> = 2.724 <i>p</i> = 0.068	<i>F</i> = 2.888 <i>p</i> = 0.058	<i>F</i> = 3.847 <i>p</i> = 0.023	<i>F</i> = 6.244 <i>p</i> = 0.002	<i>F</i> = 4.862 <i>p</i> = 0.009
Difference*	-	2 > 1,3	-	-	-	2 > 1,3	2 > 1,3	2 > 1,3

Note: *t*: Student's *t*-test; *F*: one-way ANOVA; *p*: significance level.

*: HSD post hoc test.

TABLE 4 Correlation between students' characteristics and year at school

	Year at school				
	First year		Fourth year		
	n	%	n	%	
<i>Choosing the nursing profession willingly</i>					
Yes	59	57.8	82	59.4	$X^2 = 0.060$
No	43	42.2	56	40.6	$p = 0.806$
Total	102	42.5	138	57.5	
<i>Valuing nursing</i>					
Yes	46	45.1	85	61.6	$X^2 = 7.587$
No	11	10.8	15	10.9	$p = 0.023$
Undecided	45	44.1	38	27.5	
Total	102	42.5	138	57.5	
<i>Having intention to leave nursing</i>					
Yes	7	6.9	30	21.7	$X^2 = 10.636$
No	59	57.8	73	52.9	$p = 0.005$
Undecided	36	35.3	35	25.4	
Total	102	42.5	138	57.5	
<i>Perceiving nursing as a job just to make money</i>					
Yes	13	7.12	16	11.6	$X^2 = 0.073$
No	57	55.9	78	56.5	$p = 0.964$
Undecided	32	31.4	44	31.9	
Total	102	42.5	138	57.5	

Note: X^2 : Chi-square test; p : significance level.

4 | DISCUSSION

The results of the present study demonstrated that the conscientious intelligence levels of the nursing students were moderate. The results also demonstrated that the nursing students who were about to graduate obtained higher scores from the ethical values, moral sensitivity, and wisdom sub-dimensions, but that there was no difference between their conscientious intelligence levels in general (Table 3). This difference is far below what we expected. We must further develop the conscientious intelligence of nursing students who are about to graduate because conscience is considered a highly essential concept that should be handled seriously. This is because conscience guides us through the decision-making process, by helping us to distinguish right from wrong (Wogu et al., 2015). Conscience immediately warns the individual in cases where there is an obstacle to making the right decision, or the optimum time allocated to patient care is not sufficient (Boz, 2020; Lamb et al., 2019b). One of the most important reasons for this result, the curriculum for nursing students in Turkey does not include any elective or compulsory courses on conscientious intelligence. The concept of conscience is mentioned briefly as a subtopic within the scope of the deontology course.

The result of the present study shows us that this is not enough. It has been argued that the nursing curriculum for undergraduate education should include topics such as conscientious intelligence and listening to the voice of conscience while providing care (Nagel et al., 2016; Riahi et al., 2018).

Conscience is a personal philosophy and belief system related to the ultimate goals and values (Zengin & Arslan, 2019). The value and belief system consists of a combination of traditional culture, religion, education, and learning, and an individual's life experiences and the amalgamation of education, learning, and an individual's life experiences improves the levels of conscience, ethical values, and moral sensitivity in individuals. Life experiences and time to mature are needed to increase the conscientious intelligence in individuals (Hannani et al., 2018; Mahasneh et al., 2015; Wogu et al., 2015). According to the results of the present study, other concepts affecting students' conscientious intelligence are as follows; sex, valuing nursing, perceiving nursing as a job just to make money, and choosing the nursing profession willingly.

In the present study, conscientious intelligence, compassion, wisdom, and moral sensitivity levels of the female nursing students were higher than were those of the male students ($p < 0.05$; Table 3). Previous studies indicate that sex affects the level of conscientious intelligence (Schmitt et al., 2017) and that women have higher levels of conscientious intelligence (Pant & Srivastava, 2019). Similarly, in another study conducted with nurses in our country, it was determined that sex affected the level of conscientious intelligence, and that female nurses had higher levels of conscientious intelligence than did male nurses (Ozcan, 2021). A study by Schmied et al. (2015) showed that women tend to employ positive coping methods more than negative ones and give more priority to their feelings.

The students who valued nursing obtained higher mean scores from the conscientious intelligence, compassion, conscious awareness, social sensitivity, and wisdom sub-dimensions than did those who did not love nursing ($p < 0.05$; Table 3). On the other hand, the fourth-year students valued nursing more than did the first-year students ($p < 0.05$; Table 4). Students' dissatisfaction makes them unhappy (Baldacchino, 2015). Happiness can be defined as a state of complete well-being, increasing satisfaction, and decreasing negative emotions such as depression and anxiety (Tamir et al., 2017). Happy nurses can solve existing problems themselves and they take their conscience into account when solving their problems (Nagel et al., 2016). The literature indicates that individuals who do not have any problems in their educational lives are happier and have higher levels of conscientious intelligence (Tamir et al., 2017; Zengin & Arslan, 2019). If a person is expected to value nursing, he or she should understand the values and beliefs about nursing and should learn how to interact with patients (Adib Hajbaghery & Bolandian, 2020). From this point of view, conscientious intelligence can play an important role in making nursing students value nursing or vice versa. However, more research should be conducted on this subject. Therefore, we should find a way to persuade nursing students to value nursing.

The students who did not perceive nursing as a profession just to earn money obtained higher mean scores from the ethical values, responsibility toward the creator, compassion, and conscious awareness sub-dimensions than did those who perceived nursing as a profession just to earn money ($p < 0.05$; Table 3). It is true that everyone works to make money; however, doing a job just to make money can reduce the quality of the work, and nursing is one of the professions, whose members' main purpose should not be making money. Perceiving nursing as an easier way to earn money or to have job security is worrisome for the nursing profession (Elibol & Harmanci, 2017). That is because the emotions and empathy skills a nurse has while giving care can be ignored if the aim is only to earn money (Ozcan, 2021). This may lead to a decrease in professional values and to an increase in unethical behaviors in the long run (Sengül & Bulut, 2020). In a study, it was revealed that conscientious intelligence improved task awareness and performance (Urgan, 2020). Nurses are the key people responsible for the accuracy and excellence of patient care and its ethical values (Riahi et al., 2018). Nurses' conscience clearly plays a crucial role in professional practices and decision-making in inpatient care (Cleary & Lees, 2019; Kyzar, 2016). In a previous study, it was determined that nurses highly valued conscience and that conscientious perception positively contributed to nurses' ethical decision-making processes (Kyzar, 2016). Furthermore, Sarmad and Bashir (2016) revealed that nurses with higher spiritual/conscientious intelligence were more sensitive in spirituality and could provide spiritual care and develop a therapeutic environment for their patients. Performing nursing only to make money can be one of the situations that reduce conscience (Ozcan, 2021). If we want to educate nurses with high conscientious intelligence, we should find a way to encourage nursing students to perceive their job as a calling and less as a way to make money. Therefore, it can be ensured that nurses can make the right decisions about their patients without any self-interest, and protect their patients' benefits.

The students who chose nursing willingly obtained higher mean scores from the conscientious intelligence, compassion, social sensitivity, and responsibility toward the creator sub-dimensions than did those who did not choose nursing willingly. One of the most important turning points in human life is the choice of profession. Unfortunately, when choosing a profession in Turkey, most students cannot choose the profession they want. The first step to being happy in our professional and private life, and in getting a good career is choosing a profession that suits our personality (Porzak, 2018). Choosing the nursing profession unwillingly may lead to those nursing students and nurses being unhappy. Nurses' unhappiness is also reflected in patient care (Boz, 2020). One of the most important reasons for choosing nursing unwillingly is the ease of finding a job (Korkmaz & Ipekci, 2015). In this respect, if we have an education system that guides everyone to their favorite profession, it will return to us as gainful in every aspect. Otherwise, we may have to continue to be negatively affected.

4.1 | Limitation of study

The most important limitation of the present study was that it was cross-sectional. We recommend that future studies should have a prospective design. It would be better to evaluate the conscientious intelligence with the same students at the beginning and end of the training. We planned this study as is because we wanted to evaluate education as soon as possible and take precautions.

5 | CONCLUSION

According to the results of the present study, the conscientious intelligence levels of the nursing students were moderate, and the factors affecting their conscientious intelligence levels were as follows; sex, valuing nursing, perceiving nursing as a job just to make money, and choosing nursing willingly. By researching the conscientious intelligence levels of nursing students, we can focus on the areas that need improvement in education. Most importantly, we should include the concept of conscientious intelligence as a compulsory subject in the nursing education curriculum. In addition, encouraging nursing students to value nursing and to carry out the nursing profession voluntarily rather than out of necessity can contribute to the development of conscientious intelligence. We recommend that, the existing nursing curriculum should be strengthened, that conscientious intelligence should be added to the nursing curriculum, and that future studies to be conducted on this subject should be randomized controlled studies. We also think that that performing such studies in nursing schools outside of Turkey and comparing their results with the results of studies conducted in schools in Turkey will contribute to the literature. In addition, we should encourage nursing students to value nursing. We should question whether students choose nursing willingly or not. It is possible to correct mistakes in nursing education. Therefore, we should first find out whether our current curriculum program is adequate.

6 | IMPLICATIONS FOR NURSING PRACTICE

This study is a rare example of this subject. This study is also important because it may raise nurse academics' awareness of this issue. The present study highlights that the conscientious intelligence levels of nursing students are moderate, and its results are expected to shed light on the factors affecting students' conscientious intelligence levels. The results revealed that Nurse Academics should make more attempts to improve students' conscientious intelligence. The curriculum for nursing students in Turkey does not include any elective or compulsory courses on conscientious intelligence, although, within the scope of the deontology course, the concept of conscience is briefly mentioned as a subtopic. It is obvious that we could not improve the conscientious intelligence levels of students in

this way. Therefore, the concept of conscientious intelligence should be included in the nursing education curriculum as a mandatory course, and the curriculum should be supported with practices and projects that will improve students' conscientious intelligence. Training to develop conscientious intelligence start in the family and continue at school. During this time, conscientious development, which is a dynamic process, is shaped by the integration of the individual's value and belief system, culture, religion, and life experiences, in addition to education and learning. Training is important and necessary to develop a conscience, but it is not enough when it is given alone. It is recommended that families should teach their children empathy, conscience, self-control, respect, good-heartedness, tolerance, and fairness. It is necessary for both the family and the society to be role models for the person to transfer the information given to him or her through training to the behavior. According to the value and belief system, culture, religion of each society, there may be some differences in the content of these training. This is why it is difficult to implement a standard education suitable for every society. Nurse Academics should play a leading role in this issue.

The following can be carried out to improve the conscientious intelligence of the students;

- Students observe Nurse Academics' behaviors and see them as role models. Therefore, Nurse Academics must act in a way that protects their conscientious values in their behavior. Transmission through narration without a live model will never be fully successful.
- Nurse Academics should especially teach students empathy, respect, tolerance, self-control, and equitability because all these affect students' conscience.
- Nurse Academics can improve students' conscientious intelligence by asking them this question: "What would do if you were in the same situation? Please support your statements by giving real-life examples." Importance should be attached to students' ideas, and environments, where they can freely defend their ideas, should be created.
- In the courses to be given to developing conscientious intelligence, students should also be taught about social values because the more a person comprehends the value system of the society in which he or she lives, the more competent his or her conscience becomes. When students are given values education, social values they adopt should be reinforced through practices because the values that have not been adopted by the conscience are not the acquired values.
- Nurse academics should evaluate nursing students' conscientious intelligence levels at regular intervals, and provide support by taking the result of each evaluation into account.
- In addition, it may be beneficial for the institutions where the students work to continue providing coaching on conscience and social values given to them in nursing schools after they graduate.

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CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

AUTHOR CONTRIBUTIONS

Conception and design of the study, or acquisition of data, or analysis and interpretation of data: Şadiye Özcan and Safiye Yanmış. *Drafting the article or revising it critically for important intellectual content:* Şadiye Özcan and Safiye Yanmış. *Final approval of the version to be submitted:* Şadiye Özcan and Safiye Yanmış.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author.

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