

DETERMINING THE CORRELATION BETWEEN THE PRIVACY CONSCIOUSNESS OF MIDWIFERY AND NURSING STUDENTS AND THEIR ATTITUDES TOWARD THE RECORDING AND PROTECTION OF PERSONAL HEALTH DATA

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ABSTRACT

Midwifery and nurses are to obey specific ethical principles when realizing their professional practice. One of these ethical principles is the principle of privacy and secrecy. This research aimed to determine the correlation between the privacy consciousness of midwifery and nursing students and their attitudes toward the recording and protection of personal health data. A descriptive and cross-sectional design was used. The study was conducted with 283 midwifery and nursing students in December 2021. A *self-reported survey comprising the Demographic Information Form*, “The Privacy Consciousness Scale” and “The Attitude Toward the Recording and Protection of Personal Health Data Scale *were distributed to midwifery and nursing students as a online-based survey*. The students obtained a total of 3.81 ± 0.95 points from the Attitude Toward the Recording and Protection of Personal Health Data Scale and a total of 4.30 ± 0.77 points from the Privacy Consciousness Scale. It was determined a significant correlation between the privacy consciousness of midwifery and nursing students and the the Attitude Toward the Recording and Protection of Personal Health Data Scale in a positive direction. This study showed that as midwifery and nursing students’ privacy consciousness and attitudes toward the recording and protection of personal health data were determined to be high.

Keywords: midwifery students; nursing students; personel health data; privacy consciousness.

INTRODUCTION

Developments and giant investments in the area of biotechnology have enabled access to information. However, people’s fundamental rights and freedoms are threatened in terms of acquiring, storing and sharing the personal data (Boydak, 2015; Dündar, 2018). The use of the aforementioned technology has added a particular importance to the right to privacy and protection of personal data. In the procurement of healthcare service, the patient data and information about all stages of diagnosis and treatment are recorded and stored in an electronic environment. This condition protects the rights of patients and healthcare professionals because it is of evidence quality both for patients and healthcare professionals. However, it brings along a variety of risks like dismissal of patient privacy and misuse of personal health data (Martínez-Pérez et al., 2015; Ogundele et al., 2018).

Protection of personal health data is an issue that has been discussed in the centerline of patient privacy for many years and needs particular attention. As a matter of fact some sad events related to personal health data that have recently made the headlines in Turkey fairly reveal the importance of the issue. Midwifery and nurses are to obey specific ethical principles when realizing their professional practice. One of these ethical principles is the principle of privacy and secrecy (THD, 2009; Foster and Lasser, 2015). Considering from this point of view, protection of personal data,

procurement of information security and free movement of the person are situations provided by the concept of privacy (İzgi, 2014; Adıgüzel and Aydın, 2016).

Privacy expresses the freedom concerning in what way and to what extent the beliefs, behaviors and ideas will be shared or kept (Siegel, 1979). Privacy is a fundamental human right and is also a patient right for the person receiving healthcare service (HHY, 2017). Privacy in healthcare services is not only limited to the moment when the service is received. It comprises all health data of the person in this process.

Personal health data express all kinds of information about the person's health. Midwives and nurses who are from an occupational group with a conviction of secrecy process these data without seeking the explicit consent of the relevant person (<https://www.resmigazete.gov.tr/eskiler/2019/06/20190621-3.htm>). As personal data comprise the private area of people, violation of personal data is considered violation of privacy. Such a situation will seriously abuse people's trust in institutions, organizations and the government and affect the society politically, economically and socially. Midwives or nurses processing the data are responsible for protecting the privacy of the data (<https://www.resmigazete.gov.tr/eskiler/2019/06/20190621-3.htm>). In the event of a breach of the liability, they may face a penal sanction according to the Turkish Penal Code (Dündar, 2018). Therefore all healthcare professionals are to have privacy consciousness because it is primarily a fundamental human right and also a patient right.

In recent years the role of healthcare professionals in sharing inappropriate images of patients from healthcare organizations in the media has revealed the importance of the issue. It is of particular importance to determine the situation of midwife and nurse candidates receiving education concerning the issue and improve their knowledge and consciousness level so that they will not face any penal sanctions. Examining the literature, we have encountered a limited number of studies revealing the correlation between the privacy consciousness of midwifery and nursing students who will become the members of midwifery and nursing professions in the future and their attitudes toward the recording and protection of personal health data. The purpose of this study was to determine the correlation between the privacy consciousness of midwifery and nursing students and their attitudes toward the recording and protection of personal health data. We believe that the results of our study will raise consciousness and contribute to the maturation of the curriculum.

MATERIALS AND METHODS

Study design and sampling

This study used a descriptive and cross-sectional and was carried out in December 2021. The study population consisted of 801 midwifery and nursing students in the faculty of health sciences public university in the Turkey. Using the sample size formula for known population by assuming a 50% probability and 5% standard deviation as the view of the phenomenon examined, sample size calculation revealed that minimum 260 midwifery and nursing students needed to be included.¹² Thus, the study sample consisted of a total of 133 midwifery students and 150 nursing students who were older than 18 and agreed to participate in the study. The study used the simple random sampling method.

Data collection tools

We collected the data using “the Demographic Information Form”, “The Privacy Consciousness Scale” and “The Attitude Toward the Recording and Protection of Personal Health Data Scale”.

Demographic Information Form

The form has ten questions including sociodemographic characteristics which are thought to affect the recording and protection of privacy and personal health data of students.

The Privacy Consciousness Scale

Öztürk et al. (2019) adapted the scale into Turkish (Öztürk et al., 2017). The five point likert scale has a total of eleven items. Each item in the scale gets a score ranging from strongly agree 5 to strongly disagree 1. The scale has three subscales. The subscales are; behaviors for sustaining one's own privacy consciousness/privacy of the self (item 2, 4, 6 and 10), privacy consciousness for others (item 1, 5, 8 and 11) and behaviors for sustaining the privacy of others (item 3, 7 and 9)". As the score obtained from the scale increases, privacy consciousness of nurses increases in a positive direction. Scores that are 2.5 points and below indicate lower privacy consciousness, between 2.5 and 3.5 points indicate moderate privacy consciousness and between 3.5 and 5 points indicate higher privacy consciousness. The internal consistency coefficient of the total scale was 0.77.

The Attitude Toward the Recording and Protection of Personal Health Data Scale

Gözmener et al. (2019) adapted the scale into Turkish. The five point likert scale has a total of 31 items (Gözmener et al., 2019). Each item in the scale gets a score ranging from strongly agree 5 to strongly disagree 1. The scale has five subscales. The subscales are; information about personal health data (item 12,13,14,17,18,19,20,21,15,26,30 and 31), legal information (item 8,9,10,11,15,27 and 28), legal data sharing (item 1,2,3,4 and 6), personal health data sharing (item 16,22,23 and 24) and personal health data record (item 5,7 and 29). When calculating the scale the total scale score is calculated and the scale score is determined by dividing the raw score calculated into the scale item number. Break point of the scale is three. Students obtaining under three points from the scale are assumed to have negative attitudes toward the recording and protection of personal data, while those obtaining three points and above are assumed to have positive attitudes toward the recording and protection of personal data. The internal consistency coefficient of the total scale was 0.94.

Data analysis

We evaluated the findings obtained in the study using the IBM SPSS Statistics 21 (IBM SPSS, Turkey) program for statistical analyses. We used the Kolmogorov-Smirnov test for normal distribution of the variables. We used parametric tests (independent samples t-test, one-way analysis of variance and Tukey's test which is among post-hoc multiple comparison tests) in the analysis of normally distributed data and non-parametric tests (Mann-Whitney U test, Kruskal Wallis-H test and Dunnett's test which is among post-hoc multiple comparison tests) in the analysis of non-normal distribution data. We determined the direction and power of the correlation between the scales via the Pearson's correlation analysis. We used the Linear Regression Analysis to examine the correlation between sociodemographic characteristics, privacy consciousness and attitudes toward the recording and protection of personal health data. We evaluated the significance at the level of $p < 0.05$.

Ethical consideration

In order to conduct the study we obtained written consent from the ethics committee (2020-KAEK-143-104/16.12.2021) of the university where we conducted the study and from the Faculty of Health Sciences where we implemented the study. Also we clearly informed the Faculty of Health Sciences students that their data would be kept confidential, they could withdraw from the study any time and the study would be on voluntary basis. We obtained written consent from the students who agreed to take part in the study. The researchers covered all expenses of the study. We conducted the study based on the principles specified in the Helsinki Declaration.

RESULTS

Mean age of the students who took part in the study was 20.38 ± 1.78 years and 251 (88.7%) of them were female. Of the students who took part in the study, 150 (53%) were nursing students, 133 (47%) were midwifery students and most of them (50.2%) were sophomore students. Most of the

students' maternal education level was primary school (48.1%) and paternal education level was secondary school (48.8%). 171 (60.4%) of the students stated that their family displayed an accepting, reassuring and democratic attitude. 229 (80.9%) of the students stated that they had middle socioeconomic level (Table 1).

Table 1. Descriptive characteristics (N=283)

	Min-Max	Mean±SD
Age	17-32	20,38±1,78
	n	%
Sex		
Female	251	88,7
Male	32	11,3
Department		
Nursing	150	53
Midwifery	133	47
Grade		
1st	67	23,7
2nd	142	50,2
3rd	51	18
4th and above	23	8,1
Mother's education level		
Literate	24	8,5
Illiterate	15	5,3
Primary school	136	48,1
Middle school	93	32,9
High school	15	5,3
Father's education level		
Literate	15	5,3
Primary school	94	33,2
Middle school	138	48,8
High school	36	12,7
Family structure		
Authoritarian	15	5,3
Protector	53	18,7
Inconsistent	26	9,2
Tolerant	18	6,4
Democratic	171	60,4
Socioeconomic level		
Low	26	9,2
Moderate	229	80,9
High	28	9,9

The students obtained a total of 3.81 ± 0.95 points from the Attitude Toward the Recording and Protection of Personal Health Data Scale and a total of 4.30 ± 0.77 points from the Privacy Consciousness Scale. The mean total score of the students was 4.30 ± 0.77 for the Privacy Consciousness Scale, 4.44 ± 0.96 for the one's own privacy consciousness subscale, 4.21 ± 0.878 for the privacy consciousness for others subscale and 4.24 ± 0.89 for the behaviors for sustaining the privacy of others subscale. The mean total score of the students was 4.03 ± 0.85 for the Attitude Toward the Recording and Protection of Personal Health Data Scale, 4.09 ± 0.89 for the information about personal health data subscale, 4.20 ± 0.93 for the legal information subscale, 4.21 ± 0.90 for the

legal data sharing subscale, 3.91 ± 0.97 for the personal health data sharing subscale and 3.81 ± 0.95 for the personal health data record subscale (Table 2).

Table 2. Mean scale scores

The Attitude Toward the Recording and Protection of Personal Health Data Scale			The Privacy Consciousness Scale		
Subscale	Min-Maks	Mean±SD	Subscale	Min-Maks	Mean±SD
Information about personal health	1-5	4,09±0,89	Own privacy consciousness	1-5	4,44±0,96
Legal information	1-5	4,20±0,93	Privacy consciousness for others	1-5	4,21±0,878
Legal data sharing	1-5	4,21±0,90			
Personal health data sharing	1-5	3,91±0,97	Behaviors for sustaining the privacy	1-5	4,24±0,89
Personal health data record	1-5	3,81±0,95			
Total Score	1-5	4,03±0,85	Total Score	1-5	4,30±0,77

Examining the the Attitude Toward the Recording and Protection of Personal Health Data Scale and subscales according to specific descriptive characteristics of the students, we found a statistically significant difference between their departments in the legal information and legal data sharing subscales ($p < 0.05$). The midwifery students obtained higher scores from the total scale and all subscales compared to the nursing students. According to the class of the students, the senior students obtained higher scores from the legal data subscale compared to the freshman students at a statistically significant level ($p = 0.05$) (Table 3).

According to the paternal education level of the students, there was a statistically significant difference between those who were literate and primary school graduate ($p = 0.023$) and those who were secondary school graduate ($p = 0.005$) in terms of the mean total the Attitude Toward the Recording and Protection of Personal Health Data Scale scores; between those who were literate and all educational levels (p values; 0.009; 0.002; 0.025, respectively) in terms of the mean personal health data subscale scores; between those who were literate and primary school graduate ($p = 0.018$) and those who were secondary school graduate ($p = 0.004$) in the terms of the mean legal data sharing subscale scores; and between those who were literate and secondary school graduate ($p = 0.045$) in terms of the mean personal health data record subscale scores (Table 3).

According to the socioeconomic level of the students, there was a statistically significant difference between those who had low and middle socioeconomic level ($p = 0.037$) and those who had high socioeconomic level ($p = 0.033$) in terms of the mean personal health data sharing subscale scores (Table 3).

Table 3. The relationship between the descriptive characteristics of the students and their mean scores on the Attitude Toward the Recording and Protection of Personal Health Data Scale

	Total scale score	Information about personal health	Legal information	Legal data sharing	Personal health data sharing	Personal health data record
Sex						
Female	4,18	4,08	4,42	4,40	4,00	4,00
Male	4,13	4,04	4,28	4,30	4,00	4,00
Test/p	U=3857,50 p=0,716	U=3683,50 p=0,444	U=3496,0 p=0,229	U=3851,0 p=0,702	U=3630,0 p=0,372	U=3678,50 p=0,433
Department						
Nursing	4,05	4,00	4,28	4,20	4,00	4,00
Midwifery	4,29	4,16	4,57	4,60	4,00	4,00
Test	U=8198,0 p=0,010	U=8689,50 p=0,061	U=8204,50 p=0,009	U=7538,50 p=0,000	t=-0,889 p=0,375	t=-1,119 p=0,266
Grade						
1st	4,01	4,00	4,14	4,20	4,00	4,00
2nd	4,23	04,08	4,57	4,60	4,00	4,00
3rd	4,22	4,16	4,57	4,40	4,00	4,00
4th and above	4,08	4,00	4,28	4,40	4,00	4,00
Test	KW=5,786 p=0,122	KW=3,520 p=0,061	KW=4,623 p=0,202	KW=11,791 p=0,008	KW=1,434 p=0,231	KW=2,707 p=0,100
Mother's education level						
Illiterate	4,13	4,08±0,81	4,35	4,60	4,00±0,94	4,00±0,96
Literate	4,22	4,16±1,23	4,57	4,20	4,00±1,39	4,00±1,30
Primary school	4,18	4,08±0,82	4,57	4,60	4,00±0,88	4,00±0,85
Middle school	4,12	4,00±0,99	4,42	4,40	4,00±1,05	4,00±1,03
High school	4,10	4,08±0,52	4,42	4,20	4,00±0,95	4,00±0,79
Test	KW=1,166 p=0,884	F=1,111 p=0,351	KW=3,445 p=0,486	KW=0,791 p=0,940	F=0,506 p=0,732	F=1,124 p=0,345
Father's education level						
Literate	3,35±1,27	3,22±1,28	3,48±1,31	3,49±1,40	3,25	3,28±1,25
Primary school	4,02±0,82	4,00±0,87	4,22±0,89	4,22±0,88	4,00	3,74±0,90
Middle school	4,12±0,78	4,08±0,82	4,28±0,86	4,32±0,80	4,00	3,96±0,89
High school	3,95±0,92	3,99±0,91	4,09±0,98	4,06±0,93	4,00	3,68±1,05
Test	F=3,872 p=0,010	F=4,255 p=0,006	F=6,517 p=0,038	F=4,338 p=0,005	KW=2,659 p=0,447	F=3,087 p=0,028
Family structure						
Authoritarian	4,18	4,08	4,42	4,40	4,00	4,00
Protector	4,23	4,08	4,08	4,60	4,00	4,00
Inconsistent	4,18	4,12	4,12	4,60	4,00	4,00
Tolerant	4,00	4,12	4,12	4,10	4,00	4,00
Democratic	4,17	4,00	4,00	4,40	4,00	4,00
Test	KW=1,98 p=0,739	KW=0,456 p=0,978	KW=3,315 p=0,507	KW=6,80 p=0,147	KW=1,382 p=0,847	KW=1,589 p=0,811
Socioeconomic level						
Low	3,78±0,94	3,75±0,89	4,00±1,03	4,08±1,09	3,45±1,07	3,62±0,94
Moderate	4,04±0,87	4,00±0,92	4,22±0,95	4,22±0,92	3,94±0,98	3,81±0,96
High	4,17±0,57	4,17±0,57	4,22±0,62	4,28±0,54	4,11±0,74	4,04±0,80
Test	F=1,472 p=0,231	F=1,583 p=0,207	F=0,637 p=0,530	F=0,356 p=0,701	F=3,694 p=0,026	F=1,339 p=0,264

F: One-Way Analysis of Variance; KW: Kruskal Wallis H test; U: Mann Whitney U test

The female students had higher mean total Privacy Consciousness and privacy consciousness for others subscale scores compared to the male students at a statistically significant level ($p < 0.05$). According to the class of the students, there was a statistically significant difference between the

mean privacy consciousness for others subscale scores. The advanced analysis showed that the difference was between the freshman and sophomore students ($p=0.039$) (Table 4).

According to the maternal education level of the students, there was a statistically significant difference between those who were literate and secondary school graduate ($p=0.044$) in terms of the mean total Privacy Consciousness Scale scores; between those who were primary school graduate and secondary school graduate ($p=0.043$) in terms of the mean one's own privacy consciousness subscale scores; between those who were illiterate and literate ($p=0.025$), between those who were literate and primary school graduate ($p=0.002$), between those who were literate and secondary school graduate ($p=0.00$) and between those who were literate and high school graduate ($p=0.009$) in terms of the mean privacy consciousness for others subscale scores (Table 4).

According to the paternal education level of the students, there was a statistically significant difference between those who were primary school graduate and high school graduate ($p=0.033$) and between those who were secondary school graduate and high school graduate ($p=0.048$) in terms of the mean one's own privacy consciousness subscale scores; between those who were high school graduate and primary school graduate ($p=0.033$) and between those who were secondary school graduate ($p=0.048$) in terms of the mean privacy consciousness for others subscale scores; between those who were primary school graduate ($p=0.029$) and high school graduate ($p=0.042$) in terms of the mean behaviors for sustaining the privacy of others subscale; and between those who were primary school graduate and high school graduate ($p=0.046$) in terms of the mean total scale score (Table 4).

Examining the mean privacy consciousness for others subscale scores of the students, there was a statistically significant difference between those whose family structure was inconsistent and those whose family structure was tolerant ($p=0.039$) (Table 4). There was a statistically significant difference between the students who had low socioeconomic level and those who had high socioeconomic level in terms of the mean one's own privacy consciousness subscale scores ($p=0.037$) (Table 4).

Table 4. The relationship between the descriptive characteristics of the students and their mean scores on the The Privacy Consciousness Scale

	Total scale score	Own privacy consciousness	Privacy consciousness for others	Behaviors for sustaining the privacy
Sex				
Female	4,58	5,00	4,25±0,84	4,26±0,88
Male	4,38	4,75	3,86±1,05	4,03±0,94
Test/p	U=3444,00 p=0,049	U=3683,50 p=0,153	t=1,998 p=0,018	t=1,411 p=0,159
Department				
Nursing	4,5	5,00	4,16±0,91	4,66
Midwifery	4,66	5,00	4,26±0,83	4,66
Test	U=9126,0 p=0,214	U=9745,50 p=0,716	t=-0,956 p=0,340	U=9099,00 p=0,186
Grade				
1st	4,12±0,77	4,75	3,95±0,90	4,07±0,85
2nd	4,36±0,78	5,00	4,29±0,86	4,32±0,89
3rd	4,24±0,81	5,00	4,18±0,90	4,11±0,99
4th and above	4,56±4,50	5,00	4,48±0,63	4,46±0,74
Test	F=2,446 p=0,064	KW=3,322 p=0,345	F=3,236 p=0,023	F=2,040 p=0,108
Mother's education level				
Illiterate	4,54	4,29±1,18	4,10±0,99	4,66
Literate	4,91	4,73±0,59	4,51±0,92	5,00

Primary school	4,61	4,61±0,75	4,31±0,79	4,66
Middle school	4,38	4,25±1,11	4,10±0,91	4,66
High school	4,02	4,06±1,23	3,76 ±0,97	3,66
Test	KW=14,490 p=0,006	F=3,099 p=0,016	F=2,376 p=0,052	KW=15,835 p=0,003
Father's education level				
Literate	3,47	4,00	3,71±1,06	3,71±1,40
Primary school	4,72	5,00	4,32±0,83	4,39±0,80
Middle school	4,62	5,00	4,28±0,82	4,27±0,90
High school	4,27	4,87	3,86±0,96	3,93±0,94
Test	KW=8,900 p=0,002	KW=9,640 p=0,014	F=4,460 p=0,010	F=4,265 p=0,006
Family structure				
Authoritarian	4,41±0,81	5,00	4,28±0,90	5,00
Protector	4,31±0,75	5,00	4,22±0,91	4,66
Inconsistent	4,57±0,40	5,00	4,56±0,63	4,66
Tolerant	3,86±0,86	4,62	3,72±1,02	3,66
Democratic	4,28±0,79	5,00	4,19±0,86	4,66
Test	F=2,367 p=0,053	KW=4,840 p=0,184	F=2,556 p=0,039	KW=6,633 p=0,085
Socioeconomic level				
Low	3,96±0,81	3,99±1,14	3,99±0,80	3,92±0,96
Moderate	4,34±0,76	4,48±0,93	4,26±0,86	4,27±0,88
High	4,28±0,77	4,55±0,93	4,01±1,01	4,28±0,92
Test	F=2,713 p=0,068	F=3,342 p=0,037	F=1,879 p=0,155	F=1,820 p=0,164

F: One-Way Analysis of Variance; KW: Kruskal Wallis H test; U: Mann Whitney U test

According to Table 5 there was a statistically significant correlation between the mean total scale score and all subscale scores in a positive direction ($p < 0.05$). The correlation was higher between the mean total the Attitude Toward the Recording and Protection of Personal Health Data Scale score and the one's own privacy consciousness subscale scores in a positive direction and was higher between the one's own privacy consciousness subscale scores and the legal information and legal data sharing subscale scores in a positive direction (Table 5).

Table 5. The relationship the Attitude Toward the Recording and Protection of Personal Health Data Scale and The Privacy Consciousness Scale

Scale and Subscale		Own privacy consciousness	Privacy consciousness for others	Behaviors for sustaining the privacy	Total Scale Score
Information about personal health	r	0,611	0,345	0,258	0,482
	p	0,000	0,000	0,000	0,000
Legal information	r	0,653	0,429	0,304	0,548
	p	0,000	0,000	0,000	0,000
Legal data sharing	r	0,646	0,431	0,307	0,547
	p	0,000	0,000	0,000	0,000
Personal health data sharing	r	0,561	0,284	0,247	0,434
	p	0,000	0,000	0,000	0,000
Personal health data record	r	0,567	0,344	0,228	0,451
	p	0,000	0,000	0,000	0,000
Total Scale Score	r	0,659	0,397	0,292	0,534
	p	0,000	0,000	0,000	0,000

r= Spearman correlation coefficient

DISCUSSION

Midwifery and nursing students need to have awareness and consciousness on the privacy and protection of patients' medical and personal info. In the study that we conducted to reveal the consciousness level and attitudes of the midwifery and nursing students on the issue, we discussed the findings below.

As long as people providing healthcare service regard patient privacy and have consciousness on the protection on personal health data, misuse of the knowledge especially within the scope of privacy will be prevented. Protection of patient privacy in healthcare organizations is an occupational responsibility for all healthcare professionals, primarily nurses and midwives. Also it is a key concept in professional ethics (Kim and Kyung, 2018; Natsume, 2018). As midwifery and nursing students have better access to medical and personal data of patients, they need to take responsibility in the protection of patient privacy and develop their professionalism. The study determined that the midwifery and nursing students had higher total privacy consciousness score and subscale scores. A study conducted by Özkan et al. (2020) with 511 nursing students found privacy consciousness to be higher (Özkan et al., 2018). A qualitative study conducted by Arslan and Demir (2017) examining the attitudes of physicians and nurses toward privacy determined that they had positive attitudes toward patient privacy (Arslan and Demir, 2017). A study conducted by Kim and Kyung (2018) on patient rights perception of nursing students found that they had a higher perception of patient privacy and confidentiality in patient rights. Our findings are in agreement with the literature results (Kim and Kyung, 2018).

The scores obtained by the students from the total Attitude Toward the Recording and Protection of Personal Health Data Scale and subscales were in the direction of positive attitude. In a study on consciousness of students on personal health data the students stated that adequate consciousness on personal health data was most available in nurses (49%) and that nurses were responsible for recording (81%) and protecting (76%) personal health data.²⁰ A study conducted by Büyük and Baydın (2020) with nursing students found that the students had higher attitudes toward the recording and protection of personal health data (Büyük and Baydın, 2020). A study conducted by Maraş and Ceyhan (2021) found that nursing students developed positive attitudes, which is in agreement with our study. The literature findings are in agreement with our study (Maraş and Ceyhan, 2021).

Examining the Privacy Consciousness Scale and subscales according to specific descriptive characteristics of the students, the female students had higher mean total Privacy Consciousness Scale and the privacy consciousness for others subscale scores compared to the male students at a statistically significant level ($p < 0.05$). A study conducted by Buldan and Arslan (2021) with nursing students found that the female students had a higher privacy consciousness level compared to the male students (Buldan and Arslan, 2021). A study conducted by Eyigün (2019) with healthcare professionals found that the female healthcare professionals had higher privacy consciousness compared to the male healthcare professionals (Eyigün, 2019). In contradistinction to our study, some studies suggest that gender factor will not affect privacy consciousness (Varol et al., 2018; Maraş and Ceyhan, 2021). In the study the female students had a higher level of one's own privacy consciousness, which makes us think that privacy training provided to girls is affected by their individual values created within the scope of their roles, responsibilities and cultural values in their social environment starting from the intrafamilial process.

Every parent has different parental attitudes according to their values and beliefs. In inconsistent attitude, parents are inconsistent in their behaviors and the child is unable to separate right from wrong. He/she tries to separate them by returning to self. In excessively tolerant attitude, parents show exaggerated love to the child, there is an unhealthy parent-child interaction and the child has limitless rights (Özyürek, 2017). Examining the mean privacy consciousness for others subscale scores of the students in the study, there was a statistically significant difference between those whose family structure was inconsistent and those whose family structure was tolerant ($p = 0.039$).

The students who stated that their family structure was inconsistent had higher privacy consciousness for others subscale scores compared to those who stated that their family structure was tolerant. This may have been caused by being unable to teach fundamental moral principles in tolerant family attitude and led to the development of privacy consciousness in people raised in an inconsistent family by returning to self due to self effort.

Examining the Attitude Toward the Recording and Protection of Personal Health Data Scale and subscales according to specific descriptive characteristics of the students, we found a statistically significant difference between their classes in the legal data subscale and determined that the senior students obtained higher scores compared to the freshman students at a statistically significant level ($p=0.05$). Increase of theoretical knowledge and clinical experience with increase of class may be considered a reason for the higher class students to have higher attitude scale scores compared to the lower class students. A study conducted by Maraş and Ceyhan (2021) to determine the attitudes of nursing department students toward the recording and protection of personal health data found that the senior students had higher attitude scores compared to the junior students, which is in agreement with our study (Maraş and Ceyhan, 2021).

In the study we determined that the midwifery department students obtained higher scores from the Attitude Toward the Recording and Protection of Personal Health Data Scale and all subscales compared to the nursing department students. We think that this was because the midwifery department students only comprise women and in the Turkish culture, protection of personal data is more important for women.

We determined that as the socioeconomic level, maternal and paternal education level of the students increased, their attitudes toward the recording and protection of personal health data and their privacy consciousness increased. In contradistinction to our study, a study conducted with nursing students found that maternal and paternal education level has no impact on attitudes toward the recording and protection of personal health data (Maraş and Ceyhan, 2021).

Examining the correlation between privacy consciousness of the students and the Attitude Toward the Recording and Protection of Personal Health Data Scale in the study, we found a significant correlation between the mean total scale scores in a positive direction. This result makes us think that students with higher privacy consciousness may record and protect personal health data which is accepted as sensitive data more effectively in clinical practice.

CONCLUSION

As a consequence; the study which we conducted to investigate the privacy consciousness of midwifery and nursing students which affects their attitudes toward the recording and protection of personal health data determined that they had higher privacy consciousness, positive attitudes toward the recording and protection of personal health data and higher consciousness. We determined a significant correlation between the privacy consciousness of midwifery and nursing students and the the Attitude Toward the Recording and Protection of Personal Health Data Scale in a positive direction.

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