



**THE IMPACT OF EMOTIONAL CONTAGION IN NURSES ON MISSED NURSING CARE:
A CROSS-SECTIONAL STUDY**

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Abstract: Nurses encounter various situations in their work that can affect their emotional status, and they can contagion these emotions to others. These emotions experienced by nurses can influence nursing care. The study used a cross-sectional, descriptive, and correlational design to explore the impact of emotional contagion among nurses on unmissed nursing care. The research was conducted with 304 volunteer nurses through an online survey. Data were collected using a survey form consisting of a Demographic Information Form, Emotional Contagion Scale, and Missed Nursing Care Needs Scale. The data were analyzed by the researchers. The study revealed that nurses had a moderate level of emotional contagion. Differences in emotional contagion levels were found based on gender, age, educational level, type of institution, marital status, working hours, institutional experience, unit of work, and voluntary choice of job ($p < 0.05$). Additionally, the study showed that the level of missed nursing care among nurses was low. "Communication" was identified as the most significant factor causing missed nursing care. The level of missed nursing care varied according to gender, age, educational status, type of institution, professional and institutional experience, marital status, working hours, unit of work, and duration of employment ($p < 0.05$). Emotional contagion had a negative impact on the need for missed nursing care ($\beta = -0.150$, $t = -2.636$, $R^2 = 0.022$, $p < 0.05$), its causes ($\beta = -0.193$, $t = -3.411$, $R^2 = 0.037$, $p < 0.05$), especially workforce resources ($\beta = -0.249$, $t = -4.470$, $R^2 = 0.062$, $p < 0.05$), and material resources ($\beta = -0.271$, $t = -4.898$, $R^2 = 0.074$, $p < 0.05$). To reduce the level of missed nursing care, fostering positive emotions among nurses and promoting their transmission can be utilized as a strategy.

Keywords: Emotional contagion, missed nursing care, nursing.

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1. Introduction

1.1. Background of the Study

In individual and professional lives, human beings, as social beings, interact and communicate with others, experiencing emotions that also influence their behaviors [1]. Although emotions were long overlooked in the workplace, they have gained increasing importance with the behavioral management approach. Emotions cannot be separated from the work environment because individuals carry their emotions into the workplace, influencing other employees and shaping their behaviors accordingly [1-2]. In fact, the same emotions can lead to different behaviors in different individuals. Within an organization, emotions are generally associated with concepts such as emotional labor, emotional intelligence, emotional identity, emotional climate, and emotion management. However, in recent years,

the emotional dynamics among individuals have given rise to the concept of "emotional contagion," emphasizing the need for its examination within organizations [3]. This concept was first defined by Hatfield et al. in 1994 as "the transfer of emotions or mood from one person to another" and has been noted to have positive and negative consequences within organizations. It has been emphasized that positive emotions perceived and displayed by employees and managers create a positive emotional state in others and lead to positive work outcomes, while negative emotions can cause stress and burnout in others [4-5].

In healthcare organizations, nurses, who are at the core of the healthcare team, encounter numerous situations that can affect their emotional state, both in their interactions with patients, team members, colleagues, and managers, and in their personal lives [6]. This situation increases the likelihood of nurses transmitting emotions such as happiness, joy, disappointment, anxiety, fear, anger, stress, trust, etc. [7]. Since the emotions that nurses possess can impact nursing care and, particularly, negative emotions can jeopardize patient safety, it is emphasized that the susceptibility of nurses to emotional contagion and its consequences should be examined and managed effectively to prevent adverse outcomes [7-8].

The transmission of negative emotions has been found to lead to burnout, emotional exhaustion, reduced communication sensitivity, and decreased professional commitment [6-9]. On the other hand, it is stated that positive emotions act as a factor that enhances job satisfaction and commitment [10]. In addition to these findings, it is expressed that nurses, as a result of experiencing negative emotional states, may neglect patient care, particularly psychosocial care, leading to unmet care needs [11].

Missed nursing care is defined as "the total or partial omission or delay of required care" [12]. In the literature, it is also referred to as unfinished, omitted, deferred, incomplete, missed, or postponed care [13-14]. This can lead to serious patient outcomes, such as pressure ulcers, phlebitis, urinary tract infections, patient falls, patient dissatisfaction, and increased length of stay, resulting in a decline in the quality of nursing care, increased healthcare costs, and compromised patient safety [15-16-17-18-19-20-21]. It is also noted that it can lead to negative consequences for nurses, including job dissatisfaction, decreased job satisfaction, intention to leave the profession, and burnout [16-22]. Considering these negative outcomes, it is emphasized that factors affecting missed nursing care need to be examined, and effective strategies need to be developed and implemented to prevent it [23]. In this context, although it is suggested that emotional contagion among nurses may be effective in missed nursing care, this issue has not been sufficiently investigated and clarified. Based on this need, this study aims to determine whether emotional contagion among nurses has an impact on missed nursing care.

1.2. Research Questions

The research sought answers to the following questions.

- 1-What is the level of emotional contagion in nurses?
- 2-What is the amount of nursing care that is not met by nurses and what are the reasons?
- 3-Does emotional contagion in nurses affect unmet nursing care?

2. Materials and Methods

2.1. Study Design

The research was carried out in a cross-sectional, descriptive, and correlational design.

2.2. The Study Area

The research population consisted of nurses (N= 227.292) working all over Türkiye.

2.3. Sample Size Estimation

The confidence interval for the size of the population considered within the scope of the research was determined as 95%, the corresponding Z value was selected as 1.96 from the standard normal distribution table, and the acceptable margin of error was determined as 5%. Using the formula, the sample size was found to be 249.

2.4. Study Population

The population of the research consists of nurses working in the country where the research was conducted. The sample consists of 304 nurses who can be accessed online by a simple random sampling method and accepted to participate in the research and fill out the online questionnaire.

2.5. Data Collection Tools

The research data were collected with an online questionnaire including the "Descriptive Information Form", the "Emotional Contagion Scale" and the "The Missed Nursing Care Scale".

Descriptive Information Form: It consists of 11 questions to determine the gender, age, education level, marital status, institution they work for, professional and institutional experience, position, working style, weekly working time, and willingness to choose the profession of nurses.

The Emotional Contagion Scale (ECS): It was developed by Doherty (1997) to assess individuals' sensitivity and susceptibility to emotional contagion by capturing their emotions such as joy, happiness, love, fear, anxiety, anger, sadness, and depression. The Turkish validity and reliability of the scale were tested by Akin et al. (2015). The scale consists of a total of 15 items and is unidimensional. It is rated on a five-point Likert scale (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always) and assesses the tendency to mimic five basic emotions (love, happiness, fear, anxiety, and sadness). There are no reverse-scored items in the scale. The lowest possible score is 15, and the highest score is 75, indicating higher susceptibility and sensitivity to emotional contagion as the scores increase. The Cronbach's alpha coefficient of internal consistency for the scale was found to be 0.90 in the original study [24] and 0.75 in the Turkish adaptation study [25]. In this study, Cronbach's alpha coefficient was found of 0,88.

The Missed Care Nursing Needs Scale (MISSCARE Survey-Turkish): It was developed by Kalisch and Williams (2009) and adapted into Turkish by Kalisch et al. (2012), and consists of two parts. The first part aims to determine the amount of missed care needs perceived by nurses and consists of 21 items, rated on a five-point Likert scale (1: Rarely missed, 2: Occasionally missed, 3: Frequently missed, 4: Never missed, 5: Not applicable). The second part focuses on identifying the reasons for missed nursing care and consists of 16 items, rated on a four-point Likert scale (1: Major reason, 2: Moderate reason, 3: Minor reason, 4: Not a reason for not providing care). This section comprises three dimensions: labor resources (4 items), material resources (3 items), and communication (9 items). There are no reverse-scored items in the scale. An increase in scores in the first part indicates a higher perceived amount of missed nursing care, while an increase in scores in the second part indicates a higher perceived importance of reasons for missed care. The Cronbach's alpha coefficient for the first part of the scale is 0.93, and for the second part, it is 0.80 [26]. In this study, the Cronbach's alpha coefficient for both the first and second parts of the scale was found to be 0.90.

2.6. Data Collection

The research data was collected between July and September 2022 using an online survey method. The access link to the survey form was sent to groups of nurses through social media applications that facilitate group communication. The nurses were informed about the research and invited to participate

through a voluntary informed consent form and written explanations. A total of 304 nurses voluntarily participated in the study and completed the survey form.

2.7. Data Entry, Analysis and Presentation

The research data was analyzed by the researchers using statistical software packages. In the evaluation of the data, Cronbach's alpha coefficient, descriptive statistics, percentage, and frequency distributions, as well as t-test, ANOVA, Kruskal-Wallis, Mann-Whitney U, Pearson correlation analysis, and Simple Linear Regression Analysis tests were employed.

2.8. Ethical Considerations

Before starting the research, ethical approval was obtained from the ethics committee of the Bandırma Onyedi Eylül University where the study was conducted (Date: 20.06.2022; Number: 2022-80), and necessary permissions for the use of scales were obtained from the relevant authors. Participants were provided with written explanations and informed consent forms, allowing voluntary completion of the survey.

3. Results

When examining the characteristics of the participating nurses in the study, it was determined that the majority were female (94.7%), aged between 20-30 years (59.5%), married (69.7%), had a bachelor's degree (47.0%), had professional experience between 6-10 years (41.1%), and institutional experience between 0-5 years (68.4%). It was also found that they worked in public hospitals (59.9%) as staff nurses (32.6%), and they worked on both day and night shifts (62.5%) for 40 hours per week (52.6%). Furthermore, it was revealed that they intentionally chose the nursing profession (60.9%).

Table 1. Mean Scores of Nurses on ECS and MISSCARE Survey-Turkish Scales (N=304)

Scales	M	SD	Min.	Max.
Emotional Contagion Scale (ECS)	49.42	9.56	21.00	75.00
MISSCARE Survey-Turkish (Total)	1.64	0.50	1.00	3.47
Amount of Missed Nursing Care	1.75	0.64	1.00	3.57
Reasons for Missed Nursing Care (Total)	1.48	0.54	1.00	3.47
Labor resources (LR)	1.36	0.55	1.00	3.25
Material resources (MR)	1.34	0.58	1.00	3.33
Communication (C)	1.60	0.67	1.00	4.00

When examining the levels of emotional contagion and findings related to missed nursing care among nurses, it was observed that the average score on the Emotional Contagion Scale was $M=49.42\pm 9.56$ points. On the Missed Nursing Care Need Scale, the average score was $M=1.64\pm 0.50$ points. In terms of the amount of missed nursing care, the average score was $M=1.75\pm 0.64$ points. Regarding the reasons for missed nursing care, the average score was $M=1.48\pm 0.54$ points. In terms of labor resources, the average score was $M=1.36\pm 0.55$ points. For material resources, the average score was $M=1.34\pm 0.58$ points, and for communication, the average score was $M=1.60\pm 0.67$ points (Table 1).

Table 2. Mean Scores of Nurses on ECS and MISSCARE Survey-Turkish Scales by Demographic Characteristics (N=304)

Demographic Characteristic	ECS	Misscare (Total)	Amount of Missed	Reasons for Missed Nursing Care			
				Reasons (Total)	LR	MR	C
				$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
Gender							
Female (n=287, %94.7)	49.95±9.4	1.60±0.46	1.71±0.61	1.39±0.49	1.34±0.63	1.29±0.53	1.55±0.64
Male (n=17, %5.3)	39.31±6.91	2.39±0.51	2.45±0.71	2.23±0.46	2.19±0.57	2.13±0.68	2.38±0.48
Test	Z=-4.355	Z=-5.252	Z=-4.048	Z=-5.415	Z=-5.545	Z=-5.588	Z=-4.983
p value	.000*	.000*	.000*	.000*	.000*	.000*	.000*
Age							
20-30 (n=181, %59.5) ^a	51.07±9.76	1.59±0.45	1.70±0.63	1.37±0.49	1.36±0.65	1.24±0.5	1.57±0.66
31-45 (n=104, %34.2) ^b	47.36±8.91	1.70±0.54	1.81±0.66	1.53±0.54	1.52±0.63	1.44±0.61	1.62±0.62
46+ (n=19, %6.3) ^c	43.44±6.76	1.83±0.64	1.89±0.70	1.66±0.73	1.50±0.72	1.69±0.8	1.80±0.88
Test	X ² =15.459	X ² =4.005	X ² =3.565	X ² =6.650	X ² =13.857	X ² =13.762	X ² =1.710
p value	.000* a > b, c	.135	.168	.036** b>a	.001* b>a	.001* b>a	.425
Education Level							
Health Voc. Schools' Grad. (n=32, %10.5) ^a	47.53±10.35	1.53±0.44	1.77±0.72	1.38±0.47	1.33±0.64	1.20±0.47	1.61±0.7
Associate's Degree holders (n=62, %19.8) ^b	45.26±11.64	1.75±0.59	1.72±0.72	1.71±0.66	1.73±0.95	1.63±0.77	1.78±0.71
Bachelor's Degree holders (n=141, %47.0) ^c	51.05±8.79	1.61±0.48	1.85±0.61	1.38±0.49	1.30±0.53	1.28±0.51	1.55±0.69
Master's Degree holders (n=69, %22.7) ^d	50.57±7.42	1.66±0.46	1.75±0.66	1.34±0.38	1.28±0.46	1.22±0.41	1.52±0.51
Test	F=6.319	F=1.655	F=1.103	F=7.572	F=7.399	F=8.165	F=2.074
p value	.000* c > b, d	.001* b > a, c, d	.348	.000* b > a, c, d	.000* b > a, c, d	.000* b > a, c, d	104
Type of Workplace							
Public Hospital (n=181, %59.9) ^a	49.78±8.66	1.55±0.52	1.83±0.71	1.46±0.57	1.39±0.63	1.37±0.61	1.61±0.68
Private Hospital (n=60, %20.1) ^b	51.85±9.76	1.35±0.3	1.51±0.53	1.30±0.32	1.23±0.38	1.14±0.38	1.52±0.6
University Hos. (n=46, %14.5) ^c	42.98±11.03	1.62±0.45	1.74±0.49	1.58±0.56	1.59±0.98	1.51±0.62	1.63±0.62
Other (n=17, %5.5) ^d	53.82±6.13	1.43±0.35	1.6±0.42	1.37±0.42	1.4±0.48	1.1±0.26	1.63±0.76
Test	X ² =22.857	X ² =11.278	X ² =12.287	X ² =5.453	X ² =11.052	X ² =16.433	X ² =1.118
p value	.000* d > a, b, c	.010** c > b, a	.006** a>b	.141	.011** a>b	.001* c > b, d	.773

Table 2 Continued.

Demographic Characteristic	ECS	Misscare (Total)	Amount of Missed	Reasons for Missed Nursing Care			
				Reasons (Total)	LR	MR	C
	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
Professional Experience							
0-5 years (n=95, %31.3) ^a	49.12±10.4	1.59±0.47	1.74±0.63	1.37±0.52	1.32±0.77	1.25±0.53	1.54±0.63
6-10 years (n=125, %41.1) ^b	50.59±9.73	1.61±0.51	1.71±0.66	1.42±0.51	1.35±0.56	1.33±0.56	1.57±0.67
11-15 years (n=48, %15.8) ^c	49.33±9.11	1.74±0.51	1.81±0.62	1.60±0.54	1.59±0.64	1.44±0.59	1.77±0.64
16-20 years (n=18, %5.9) ^d	45.59±7.06	1.94±0.64	2.15±0.75	1.54±0.58	1.53±0.59	1.45±0.71	1.65±0.67
21 years + (n=18, %5.9) ^e	45.75±.80	1.54±0.25	1.57±0.25	1.42±0.58	1.30±0.68	1.40±0.6	1.57±0.77
Test	$X^2=7.897$	$X^2=8.657$	$X^2=7.656$	$X^2=9.776$	$X^2=16.883$	$X^2=6.951$	$X^2=6.596$
p value	.095	.070	.105	.054	.002** c>a	.139	.159
Marital Status							
Married (n=212, %69.7)	49.89±9.67	1.66±0.50	1.78±0.64	1.46±0.53	1.41±0.7	1.36±0.57	1.61±0.68
Single (n=92, %30.3)	48.23±9.32	1.59±0.50	1.70±0.63	1.40±0.5	1.34±0.55	1.28±0.57	1.58±0.62
Test	t=1.393	t=1.055	t=1.012	t=.914	t=.835	t=1.149	t=.364
p value	.165	.292	.312	.361	.405	.252	.716
Employment Type							
Night Shift (n=14,%4.6) ^a	43.36±11.3	1.53±0.6	1.59±0.72	1.44±0.64	1.27±0.47	1.52±0.84	1.53±0.8
Day Shift (n=100,%32.9) ^b	48.79±9.41	1.73±0.49	1.89±0.65	1.49±0.56	1.48±0.81	1.40±0.59	1.59±0.7
Rotating Shift (n=190,%62.5) ^c	50.15±9.41	1.60±0.45	1.69±0.63	1.41±0.5	1.35±0.57	1.28±0.53	1.60±0.63
Test	$X^2=6.319$	$X^2=9.170$	$X^2=13.105$	$X^2=.889$	$X^2=3.723$	$X^2=2.880$	$X^2=.792$
p value	.042** c>b	.010** b>a, c	.005** b >a, c	.641	.155	.237	.673
Institutional Experience							
0-5 years (n=208,%68.4) ^a	50.28±9.87	1.59±0.49	1.74±0.65	1.35±0.47	1.3±0.61	1.24±0.49	1.50±0.6
6-10 years (n=62, %20.4) ^b	47.75±9.46	1.67±0.46	1.67±0.57	1.63±0.58	1.60±0.75	1.49±0.67	1.79±0.72
11-15 years (n=24, %7.9) ^c	47.14±6.07	2.05±0.60	2.11±0.73	1.83±0.57	1.68±0.62	1.73±0.73	2.09±0.7
16-20 years (n=3, %1.0) ^d	54.00±7.94	1.59±0.19	1.48±0.25	1.72±0.75	1.67±1.15	1.67±0.58	1.83±0.76
21 years + (n=7, %2.3) ^e	41.67±5.24	1.41±0.15	1.68±0.22	1.05±0.08	1.04±0.1	1.06±0.14	1.04±0.1
Test	$X^2=11.844$	$X^2=16.889$	$X^2=8.115$	$X^2=29.775$	$X^2=16.777$	$X^2=19.18$	$X^2=27.255$
p value	.019** a>e	.000* c> a, b, e	.087	.000* c> a, b, e	.002** c> a, b, e	.001* c >a, b, e	.000* c> a, b, e

Table 2 Continued.

Demographic Characteristic	ECS	Misscare (Total)	Amount of Missed	Reasons for Missed Nursing Care			
				Reasons (Total)	LR	MR	C
	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
Position							
Service Nurse (n=99, %32.6) ^a	50.04±9.09	1.64±0.54	1.78±0.71	1.42±0.55	1.40±0.83	1.33±0.6	1.53±0.6
Intensive Care Nurse (n=63,%20.7) ^b	52.19±8.37	1.52±0.41	1.57±0.54	1.36±0.47	1.25±0.54	1.17±0.41	1.65±0.69
Emergency Nurse (n=27, %8.9) ^c	43.11±7.74	1.93±0.59	2.04±0.68	1.67±0.67	1.57±0.65	1.58±0.78	1.87±0.74
Policlinic Nurse (n=13, %4.3) ^d	51.69±11.88	1.57±0.46	1.71±0.59	1.34±0.51	1.37±0.62	1.23±0.44	1.41±0.86
Unit manager nurse (n=48, %15.8) ^e	48.13±9.06	1.69±0.48	1.77±0.61	1.55±0.54	1.41±0.58	1.53±0.63	1.70±0.73
Other (n=54, %17.7) ^f	48.63±11.05	1.61±0.45	1.75±0.60	1.38±0.41	1.42±0.46	1.25±0.45	1.47± 0.53
Test	$X^2=21.796$	$X^2=13.052$	$X^2=12.007$	$X^2=8.798$	$X^2=18.378$	$X^2=15.696$	$X^2=10.735$
p value	.001* b>a, c	.023** c>b	.035** c>b	.117	.003** c>b	.008** c>b	.05** e>b
Weekly Working Hours							
Less than 40 hours (n=10, %3.4) ^a	43.2±7.9	1.44±0.35	1.44±0.33	1.41±0.53	1.40±0.65	1.33±0.59	1.49±0.53
40 hours (n=160,%52.6) ^b	50.27±8.8	1.63±0.44	1.76±0.56	1.40±0.49	1.32±0.51	1.32±0.58	1.55±0.7
41-50 hours (n=140,%46.2) ^c	51.21±8.9	1.59±0.50	1.70±0.65	1.40±0.52	1.36±0.73	1.25±0.51	1.59±0.63
51 hours + (n=48, %15.8) ^d	43.4±10.6	1.83±0.60	1.94±0.78	1.65±0.58	1.61±0.69	1.58±0.66	1.74±0.68
Test	$X^2=24.601$	$X^2=8.257$	$X^2=7.573$	$X^2=7.090$	$X^2=9.550$	$X^2=14.423$	$X^2=4.036$
p value	.000* c> b, d	.041** d>c	.056	.069	.023** d>c	.002** d>c	.258
Choosing Profession Willingly							
Yes (n=185, %60.9)	49.48±10.09	1.64±0.54	1.75±0.71	1.43±0.51	1.38±0.55	1.34±0.58	1.59±0.68
No (n=119, %39.1)	49.25±8.77	1.64±0.42	1.76±0.52	1.45±0.56	1.40±0.8	1.33±0.55	1.61±0.64
Test	t=.198	t=-.087	t=-.195	t=-.173	t=-.341	t=0.111	t=-0.169
p value	.843	.931	.846	.863	.733	.912	.866

Z= Mann Whitney U. t= Student t Testi. F= One Way Anova. X^2 = Kruskal Wallis. M= Mean. SD:Standart Deviation. ECS= Emotional Contagion Scale. LR=Labor resources. MR=Material resources. C= Communication. *p ≤0.001. ** p< 0.05

When examining the levels of emotional contagion among nurses, it was determined that female nurses, aged between 20-30, with a bachelor's degree, working in private hospitals, having 15 years or less of professional experience, married, working in day and night shifts, having 16-20 years of institutional experience, serving as intensive care nurses, working for 40-50 hours per week, and choosing the nursing profession willingly, had higher levels of emotional contagion scores. Furthermore, significant differences were observed among groups in terms of gender, age, education level, type of institution worked, work schedule, institutional experience, position, and weekly working hours (p<0.05) (Table 2).

When examining the average scores of missed nursing care needs among nurses, it was found that male nurses, aged 46 and above, with an associate degree, working in university hospitals, having 16-20 years of professional experience and 11-15 years of institutional experience, married, working consistently in day shifts, serving as emergency department nurses, and working more than 51 hours per week, had higher average scores. Additionally, significant differences were observed among groups in terms of gender, education level, type of institution worked, work schedule, institutional experience, position, and weekly working hours ($p < 0.05$) (Table 2).

When evaluating the amount of unmet nursing care needs among nurses, it was determined that male nurses, aged 46 and above, with a bachelor's degree, working in public hospitals, having 16-20 years of professional experience and 11-15 years of institutional experience, married, working consistently in day shifts, serving as emergency department nurses, working more than 51 hours per week, and not choosing the nursing profession willingly, had higher average scores. Additionally, significant differences were observed among groups in terms of gender, type of institution worked, work schedule, and position ($p < 0.05$) (Table 2).

When the missed nursing care needs reasons of the participants were evaluated both in total and in sub-dimensions, it was observed that male nurses, aged 46 and above, with an associate degree, working in university hospitals, having 11-15 years of both professional and institutional experience, married, working in day shifts, serving as emergency department nurses, working more than 51 hours per week, and not choosing the nursing profession willingly, had higher average scores. Furthermore, significant differences were observed among groups in terms of gender, age, education level, type of institution worked, professional and institutional experience, position, and weekly working hours in some dimensions ($p < 0.05$) (Table 2).

Table 3. The results of the correlation analysis regarding the relationship between emotional contagion level and missed nursing care.

		1.	2.	3.	4.	5.	6.	7.
1. Emotional contagion	r	1	-.150*	-.084	-.193*	-.249*	-.271*	-.103
2. Missed nursing care need (total)	r		1	.905*	.711*	.573*	.584*	.657*
3. Missed amount of nursing care	r			1	.344*	.282*	.317*	.305*
4. Reasons for missed nursing care needs	r				1	.800*	.765*	.945*
5. Labor resources	r					1	.624*	.603*
6. Material resources	r						1	.583*
7. Communication	r							1

* $p < .001$

When examining the relationship between emotional contagion levels and missed nursing care among nurses, it was observed that there were negative and significant correlations at a low level between emotional contagion and the level, amount and reasons of missed nursing care. Additionally, a positive and moderate level of significant correlation was found between the amount and reasons of missed nursing care (Table 3).

Table 4. Results of the regression analysis on the effect of emotional contagion level on missed nursing care.

Variables	B	SD	β	t	p	F	R ²
Constant	2.026	.149		13.584	.000		
Emotional Contagion	-.008	.003	-.150	-2.636	.009	6.946*	.022
Dependent Variable: Missed Nursing Care Needs (Total)							
	B	SD	β	t	p	F	R ²
Constant	2.023	.161		12.567	.000		
Emotional Contagion	-.011	.003	-.193	-3.411	.001	11.636*	.037
Dependent Variable: Reasons for Missed Nursing Care Needs							

Table 4. Continued.

	B	SD	β	t	p	F	R²
Constant	2.062	.161		12.825	.000	19.982*	.062
Emotional Contagion	-.014	.003	-.249	-4.470	.000		
Dependent Variable: Labor resources							
	B	SD	β	t	p	F	R²
Constant	2.145	.168		12.760	.000	23.994*	.074
Emotional Contagion	-.016	.003	-.271	-4.898	.000		
Dependent Variable: Material resources							

*p<.001

According to the results of the regression analysis in Table 4, it has been determined that emotional contagion has a negative effect on missed nursing care needs ($\beta = -.150$, $t = -2.636$, $R^2 = .022$, $p < .05$), particularly on the reasons for missed nursing care ($\beta = -.193$, $t = -3.411$, $R^2 = .037$, $p < .05$), specifically the dimensions of workforce resources ($\beta = -.249$, $t = -4.470$, $R^2 = .062$, $p < .05$) and material resources ($\beta = -.271$, $t = -4.898$, $R^2 = .074$, $p < .05$). In other words, as the level of emotional contagion increases among nurses, the importance of missed nursing care needs and reasons decreases. According to the results, emotional contagion explains 2% of the total variance in missed nursing care needs, 3% of the total variance in the reasons for missed nursing care needs, 6% of the total variance in workforce resources, and 7% of the total variance in material resources.

4. Discussion

In the field of healthcare, just like in any other work environment, the emotions experienced by employees can have an impact on their individual productivity and performance. Furthermore, these emotions can also affect the performance of other individuals involved in the healthcare service, ultimately influencing the quality of healthcare provided. In the study, it was found that the level of emotional contagion, which refers to the susceptibility and sensitivity to emotional contagion, was moderate among nurses. It was observed that female nurses, those under the age of 30, graduates of bachelor's degree programs, working in private hospitals, married, working in both night and day shifts, having significant institutional experience, serving as intensive care nurses, working between 40-50 hours per week, and choosing their profession willingly, were more susceptible to emotional contagion.

It is believed that the moderate level of emotional contagion among nurses is related to their empathy and emotional intelligence. Nurses' ability to understand or feel others' emotions through empathy, as well as their emotional intelligence and emotion management, may contribute to this phenomenon [27]. Additionally, the variation in emotional contagion levels among nurses is thought to stem from women being more emotional individuals compared to men, younger nurses having less professional experience and different emotion management skills [27]. Moreover, the higher expectations related to emotional behaviors concerning patient satisfaction and effective communication in private hospitals can be associated with the differing levels of emotional contagion among nurses. Intensive care nurses, on the other hand, are believed to face more negative emotions, bear a higher emotional burden, and increase emotional contagion by sharing these emotions to alleviate the burden. Nurses who choose the profession willingly are thought to be prone to emotional contagion due to their more positive attitudes towards the profession and their inclination to provide deeper and more genuine emotional labor as they develop a love for the profession [36].

According to the literature, there are variations in nurses' emotion management skills based on age, marital status, workplace, institutional and professional experience, which support the findings of the study [27]. While married and more experienced nurses were found to have higher levels of emotional contagion [2], contrary to this study, it was found that male nurses, those over 35 years old,

postgraduate graduates, working as managers, and with less institutional experience had higher levels of emotional contagion. In this regard, nurses over the age of 35, nurses with a high level of education, male nurses, and nurses working as managers should be closely monitored in terms of emotional contagion.

According to the research findings, the level of unmet nursing care and the importance of communication, workforce, and material resources as reasons for unmet nursing care are low. Communication is identified as the most significant factor causing unmet nursing care. The low level of unmet nursing care and the importance of its causes among nurses are encouraging findings and align with the literature [28]. In this regard, it is thought that it is important for nurse managers to follow methods that strengthen communication within the team, especially to create and support positive communication channels between nurses.

According to the results, it is evident that the most significant reason for unmet nursing care is communication. This finding suggests that effective communication is not being maintained within the healthcare team. Similar to these findings, in the literature, nurses have indicated "poor communication" as the reason for missed care [29]. However, contrary to this study, it is also mentioned that nurses experiencing staff shortages and high workloads tend to miss more nursing care [28-30-31-32-33-34].

According to the study, it has been determined that male nurses aged 46 and above, with associate's degrees, working in university hospitals, having extensive professional and institutional experience, married, working on a permanent day shift, serving as emergency department nurses, and working longer weekly hours, experience a higher amount of unmet nursing care, and the factors contributing to this are perceived as more significant. It is believed that older nurses with extensive institutional and professional experience may start to decrease their professional idealism or have developed advanced emotion management skills, resulting in them being less influenced by the emotions of others.

The finding of a higher amount of unmet nursing care among male nurses in the study is considered an interesting result that needs to be further examined in future research. The higher level of unmet nursing care in university hospitals, emergency departments, and among nurses working on a permanent day shift is believed to be attributed to high job demands.

University hospitals are known for providing intensive treatment and care for advanced-level patients, requiring coordination among a larger healthcare team, and thus placing a heavier workload on nurses. In emergency departments, the simultaneous arrival of patients requiring urgent interventions leads to nurses being unable to allocate sufficient time for each patient due to the need for quick additional interventions. Daytime hours are also the periods when nurses experience the highest workload, making it challenging for them to allocate enough time for nursing care while attending to all their responsibilities. These findings are supported by other studies in the literature, which indicate higher levels of missed care among male nurses with longer working hours in teaching hospitals [19-29]. Married nurses, on the other hand, may struggle to fulfill nursing care due to their societal roles such as motherhood and being a spouse, which can lead to their inability to fully focus at work, resulting in factors such as attention deficits, stress, and performance decline that can contribute to unmet nursing care [35].

The emotional contagion among nurses appears to have a negative and low-level impact on the amount and reasons for unmet nursing care. In other words, as the level of emotional contagion increases among nurses, the amount and significance of unmet nursing care needs decrease.

These findings suggest that most nurses, being young, having less professional experience, and choosing the nursing profession willingly, experience and transmit more positive emotions. This situation positively influences their motivation and leads them to provide nursing care in the best possible way. Additionally, nurses who are influenced by positive emotions may not consider

communication, workforce, and material deficiencies as significant reasons for unmet nursing care. These results indicate that positive emotional contagion among nurses can be utilized as a way to reduce unmet nursing care.

Limitations

Conducting the research online instead of face-to-face may have led to a decrease in the number of participating nurses. Furthermore, relying on participants' self-assessments for the research results is another limitation. Additionally, the limited availability of studies on the subject has also posed a limitation in discussing the findings. Having a limited body of research on the topic may restrict the depth of analysis and interpretation of the results.

5. Conclusion and Recommendations

The study results indicate that nurses have a moderate level of emotional contagion, and there are differences in emotional contagion levels based on gender, age, education level, type of healthcare institution, marital status, working hours, institutional experience, work unit, and voluntary career choice. Additionally, it has been observed that the level of unmet nursing care among nurses is low, and the most significant factor contributing to unmet nursing care is "communication". The level of unmet nursing care also varies according to gender, age, education status, type of healthcare institution, professional and institutional experience, marital status, working hours, work unit, and duration of employment.

Furthermore, the study reveals that as the level of emotional contagion among nurses increases, the level of unmet nursing care decreases. Based on these results, it is suggested that utilizing positive emotional contagion among nurses can be a way to reduce unmet nursing care. It is also recommended to conduct further research on this topic in different samples for a more comprehensive investigation.

Ensuring that nurses are aware of their emotions, try to understand their emotions, and are supported to cope with their emotions,

Determining individual differences of nurses regarding their perceptions of the emotions of the patient and the team and their susceptibility to emotional contagion,

Determining a professional role model-leader and ensuring that the leader has a positive feeling,

Creating different, diverse, and rich perspectives within the team,

Ensuring the coordination of ideas and behaviors within the team and creating positive and morale-increasing communication behaviors,

Creating a common goal within the team,

Creating commitment in team relationships, providing an environment of empathy and self-confidence,

Increasing success and satisfaction within the team,

To gain the behavior of being sensitive to others;

Ensuring creativity, helpfulness, individual happiness, and organizational citizenship,

Providing a fair working environment,

Supporting professional empathic communication is recommended to ensure positive emotional transfer among nurses [38].

Ethical Statement

Before the research, ethical approval (Date: 20.06.2022; Number: 2022-80) was taken from the ethics committee of the Bandırma Onyedi Eylül University where the research was conducted. The participants were informed in line with the informed consent form and the voluntary participants were allowed to fill in the survey. For the use of PRePS in data collection, permission was taken from the author, who adapted the scale into Turkish, via e-mail.

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Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability statement

The datasets generated during and/or analyzed during the current study are not publicly available as respondents were assured raw data would remain confidential and would not be shared.

Author's contributions

G.K.T.: Conceptualization, Methodology, Acquisition of data for the study, Formal analysis, Writing - Original draft preparation

S.A.: Conceptualization, Methodology, Formal analysis, Writing - Original draft preparation

All authors read and approved the final manuscript.

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