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Examination of Job Satisfaction, Exhaustion and Anxiety Levels of Nurses Working in Intensive Care Units

Yoğun Bakım Ünitelerinde Çalışan Hemşirelerin İş Doyumu, Tükenmişlik ve Kaygı Düzeylerinin İncelenmesi

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Abstract

Objective: This study aimed to investigate the levels of job satisfaction, burnout, and anxiety among nurses working in intensive care units. Materials and Methods: A descriptive cross-sectional study was conducted with 92 nurses employed in the intensive care units of two tertiary hospitals in Erzurum, Türkiye. Data were collected using a demographic questionnaire, the State-Trait Anxiety Inventory (STAI), Minnesota Satisfaction Questionnaire (MSQ), and Maslach Burnout Inventory (MBI). Statistical analyses included t-tests, ANOVA, Kruskal-Wallis, and Dunnett's T3 post hoc tests. Results: Nurses' state and trait anxiety levels differed significantly based on age, department, unit preference, and self-confidence ($p<0.05$). Job satisfaction was significantly higher among those satisfied with their team ($p<0.05$). Burnout scores showed significant associations with number of children, in-service training, unit choice, and intention to change departments. Burnout was moderately negatively correlated with job satisfaction ($r = –0.42$) and positively correlated with both state ($r = 0.39$) and trait anxiety ($r = 0.44$) ($p<0.05$). Job satisfaction was negatively correlated with state and trait anxiety ($p<0.05$). Conclusion: These findings highlight the need for targeted strategies to enhance job satisfaction and reduce psychological distress among ICU nurse.

Key Words: Anxiety, burnout, intensive care units, job satisfaction, nurses

Özet

Amaç: Bu çalışma, yoğun bakım ünitelerinde görev yapan hemşirelerin iş doyumu, tükenmişlik ve kaygı düzeylerini incelemeyi amaçlamıştır. Gereç ve Yöntem: Araştırma, Erzurum ilindeki iki üçüncü basamak hastanenin yoğun bakım ünitelerinde çalışan 92 hemşireyle yürütülmüş tanımlayıcı kesitsel bir çalışmadır. Veriler; demografik bilgi formu, Durumluk-Sürekli Kaygı Envanteri (STAI), Minnesota İş Doyumu Ölçeği (MSQ) ve Maslach Tükenmişlik Envanteri (MBI) kullanılarak toplanmıştır. Verilerin analizinde t-testi, ANOVA, Kruskal-Wallis ve Dunnett's T3 post-hoc testleri uygulanmıştır. Bulgular: Hemşirelerin durumluk ve sürekli kaygı düzeyleri; yaş, çalışılan birim, birim tercihi ve mesleki özgüven değişkenlerine göre anlamlı farklılık göstermiştir ($p<0.05$). Takım memnuniyeti yüksek olan hemşirelerin iş doyumu düzeyleri de anlamlı olarak daha yüksek bulunmuştur ($p<0.05$). Tükenmişlik puanları; çocuk sayısı, hizmet içi eğitim alma durumu, birim tercihi ve birim değiştirme isteği ile anlamlı ilişki göstermiştir. Tükenmişlik, iş doyumu ile orta düzeyde negatif ($r = –0.42$) ve hem durumluk ($r = 0.39$) hem de sürekli kaygı ($r = 0.44$) ile pozitif yönde anlamlı korelasyon göstermiştir ($p<0.05$). İş doyumu ise durumluk ve sürekli kaygı ile negatif yönde ilişkili bulunmuştur ($p<0.05$). Sonuç: Bu bulgular, yoğun bakım hemşirelerinde psikolojik zorlanmayı azaltmak ve iş doyumunu artırmak amacıyla hedefe yönelik stratejilerin geliştirilmesi gerekliliğine işaret etmektedir.

Anahtar Kelimeler: Kaygı, tükenmişlik, yoğun bakım üniteleri, iş doyumu, hemşireler

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1. Introduction

Intensive care units (ICUs) are highly specialized hospital settings where critically ill patients receive continuous and complex medical care using advanced technology and skilled personnel. These units demand high levels of vigilance, clinical competence, and emotional resilience, especially from nurses who assume primary responsibility for direct patient care (Seaman et al., 2018 ICU nurses are routinely exposed to high-stress environments characterized by life-threatening emergencies, the management of critically complex patient conditions, stringent time constraints, ethical challenges, and continuous exposure to human suffering and mortality. (López et al., 2024). These cumulative factors significantly affect the psychological well-being and occupational satisfaction of ICU nurses and may lead to increased levels of anxiety, decreased job satisfaction, and burnout (Mach, 2024; Sangati et al., 2024; Roy et al., 2024).

Anxiety is defined as a response to perceived threats against personal integrity and can manifest with physical, emotional, cognitive, and behavioral symptoms. Within the high-intensity environment of ICUs, nurses are prone to experience elevated levels of both state and trait anxiety (Polat et al., 2019). These high anxiety levels may influence clinical decision-making, reduce performance efficiency, and impair nurse-patient communication, thereby impacting the quality of care provided (Fallah Madvari et al., 2023; Savci et al., 2021). To cope with these pressures, some nurses may adopt behavioral or pharmacological strategies—including the occasional use of anxiolytics—which, while potentially helpful in the short term, can carry implications for clinical alertness and long-term psychological resilience (Yılmaz &Atay, 2024). Studies have indicated that persistent anxiety among ICU nurses can lead to dissatisfaction, emotional fatigue, and reduced professional efficacy (Polat et al., 2019).

Job satisfaction, a critical factor influencing employee performance and organizational stability, refers to the extent to which individuals feel positive about their jobs and work environments. For nurses, job satisfaction is influenced by numerous factors including interpersonal relationships, working conditions, professional autonomy, support from management, recognition, and alignment between personal values and institutional culture (Ayed et al., 2024; Chen & Fang, 2016). In the context of ICUs, the emotional and physical demands of nursing care can diminish job satisfaction, particularly when support systems are inadequate or workloads are overwhelming (Bruyneel et al., 2025).

Low job satisfaction in nursing has been associated with absenteeism, high turnover rates, reduced morale, and compromised patient care quality (Tomaszewska et al., 2024). Conversely, higher job satisfaction contributes to organizational loyalty, enhanced performance, and better health outcomes for patients. However, when nurses are unable to achieve personal or professional fulfillment in their roles, the risk of burnout increases substantially (Paul et al., 2024).

Burnout is a psychological syndrome characterized by emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment. It is commonly observed in caregiving professions where continuous exposure to human suffering and emotional labor is prevalent. ICU nurses are particularly vulnerable to burnout due to the complex nature of patient care, the requirement for constant vigilance, inadequate staffing, shift work, and the emotional toll of patient loss (Quesada-Puga et al., 2024). Research has consistently shown that burnout in ICU nurses is associated with reduced empathy, increased medical errors, and intention to leave the profession (Wang et al., 2024; Paul et al., 2024).

The relationship between anxiety, job satisfaction, and burnout has been extensively examined in occupational psychology and nursing research. Anxiety can exacerbate emotional exhaustion and depersonalization, while low job satisfaction can erode a nurse's motivation and engagement, further intensifying the risk of burnout (Gunawati et al., 2022; Wang et al., 2024). Therefore, understanding these variables and their associations in ICU settings is essential for developing strategies to improve nurse well-being and patient care outcomes.

In light of the above, this study was conducted to evaluate the levels of anxiety, job satisfaction, and burnout among nurses working in ICUs and to examine the relationship between these variables. By identifying significant predictors and correlations, the study aims to provide evidence-based insights that can guide interventions to enhance psychological resilience and professional satisfaction among ICU nurses (Ocansey & Nertey, 2024).

2. Materials and Methods

This study employed a descriptive cross-sectional design to examine the levels of job satisfaction, burnout, and anxiety among ICU nurses. The research was conducted between May 2012 and June 2013 in the medical-surgical ICUs of Atatürk University Yakutiye Research Hospital and Erzurum Regional Training and Research Hospital.

A census method was adopted, targeting all nurses (N = 110) employed in the ICUs of both hospitals. Of these, ninety-two nurses voluntarily participated in the study, resulting in a response rate of 83.6%. Although efforts

were made to include the entire population, the 18 nurses who did not participate in the study may represent a minor source of selection bias.

Data collection occurred within the study period using face-to-face interviews conducted by the principal researcher. Each participant was informed verbally about the study's objectives and procedures, and verbal consent was obtained. Interviews were conducted in nurses' break rooms, and the completion time for the questionnaires was approximately 30 minutes. Prior to full deployment, the data collection instruments were pilot-tested on a small group of ICU nurses (n = 5) to ensure clarity and applicability. These nurses were excluded from the final sample.

Four standardized instruments were used for data collection:

1. **Demographic Information Form:** Developed based on relevant literature, this 21-item questionnaire gathered data on demographic characteristics (e.g., age, gender, education level, marital status, number of children) and professional variables (e.g., job role, unit type, work experience, job and unit preference, satisfaction with the unit, weekly working hours, and shift type).
2. **State-Trait Anxiety Inventory (STAI):** This 40-item scale, developed by Spielberger et al., (1983) and adapted into Turkish by Öner and Le Compte, (1983), measures two components of anxiety: state anxiety and trait anxiety. Each item is rated on a four-point Likert scale, with higher scores indicating higher anxiety levels. Internal consistency in this study was high, with Cronbach's alpha values of 0.92 for state anxiety and 0.87 for trait anxiety.
3. **Minnesota Satisfaction Questionnaire (MSQ):** This instrument, originally developed by Weiss et al., (1967) and adapted into Turkish by Baycan (1985), includes 20 items rated on a five-point Likert scale. Scores range from 20 to 100, with higher scores reflecting greater job satisfaction. The internal consistency for this study was 0.90.
4. **Maslach Burnout Inventory (MBI):** This instrument, originally developed by Weiss et al., (1967) and adapted into Turkish by Baycan (1985), includes 20 items rated on a five-point Likert scale. Each item is rated on a five-point Likert scale. Higher scores on emotional exhaustion and depersonalization, and lower scores on personal accomplishment, indicate higher levels of burnout. The internal consistency coefficient in this study was 0.73.

The dependent variables were the scores derived from the STAI, MSQ, and MBI. Independent variables included a wide range of demographic and occupational characteristics, such as age, gender, education, marital status, number of children, job title, unit, career and unit preference, satisfaction with the unit, weekly working hours, and shift schedule.

Statistical analysis was performed using SPSS for Windows version 16.0. Descriptive statistics (percentages) were used to summarize the data. Internal consistency was evaluated using Cronbach's alpha. Group comparisons were conducted using independent samples t-tests, one-way ANOVA with LSD post hoc tests, Kruskal-Wallis tests, and Dunnett's T3 post hoc tests, depending on data distribution and variance homogeneity.

Ethical approval for this study was obtained from the Ethics Committee of Atatürk University Institute of Health Sciences. Additional permissions were granted by the administrative bodies of both hospitals. All participants were informed of their rights and the confidentiality of their responses. Participation was entirely voluntary. Given the census-based approach and setting, the findings are considered generalizable to ICU nurses working in similar tertiary-care environments in Türkiye

3. Results

In this section, the demographic and occupational profiles of the intensive care nurses who participated in the study are detailed to provide context for interpreting the subsequent analyses.

Table 1. presents the distribution of the participants' demographic and occupational attributes. The majority of nurses were female (84.8%) and aged between 21–30 years old (57.6%). Half of the participants were single (51.1%) and did not have children (68.5%). In terms of education, 38.0% held a bachelor's degree. Most participants worked as clinical nurses (87.0%), with 50.0% having 1–5 years of total work experience and 57.6% having 1–5 years of ICU experience. More than half of the nurses reported choosing the nursing profession (64.1%) and their current ICU unit (58.7%) willingly. Surgical ICUs employed the largest proportion of nurses (54.3%). The majority expressed satisfaction with both their current unit (66.3%) and the work team (56.5%), and 89.1% indicated self-confidence in their professional roles. Regarding financial well-being, 39.1% stated that their income partially covered their expenses. Half of the participants had received in-service training related to their unit. Most nurses worked rotating shifts (66.3%) and reported weekly working hours between 41–60 hours (39.1%), with a

mean of 52.62 ± 11.98 hours. Although 63.0% of the participants did not express a desire to change departments, 37.0% reported working 8 to 10 night shifts per month (Table 1).

Table 1. Compact Summary of Demographic and Professional Characteristics of ICU Nurses

Characteristic	**Distribution** **N % N %**
Gender (Female/Male)	78 (84.8%) / 14 (15.2%)
Age (≤20 / 21–30 / ≥31)	14 (15.2%) / 53 (57.6%) / 25 (27.2%)
	Mean ± SD: 27.51 ± 5.64
Marital Status (Married/Single)	45 (48.9%) / 47 (51.1%)
Having Children (Yes/No)	29 (31.5%) / 63 (68.5%)
Education (VHS / AD / BA)	38 (41.3%) / 19 (20.7%) / 35 (38.0%)
Position at Workplace	80 (87.0%) / 12 (13.0%)
Professional Experience (<1 / 1–5 / 6–15)	7 (7.6%) / 46 (50.0%) / 39 (42.4%)
ICU Experience (<1 / 1–5 / ≥6)	22 (23.9%) / 53 (57.6%) / 17 (18.5%)
Voluntary Profession Choice (Yes/No)	59 (64.1%) / 33 (35.9%)
Current ICU (Surgical/Medical/Coronary)	50 (54.3%) / 27 (29.3%) / 15 (16.3%)
Voluntary Unit Assignment (Yes/No)	54 (58.7%) / 38 (41.3%)
Unit Satisfaction (Yes/Partial/No)	61 (66.3%) / 27 (29.3%) / 4 (4.3%)
Team Satisfaction (Yes/Partial/No)	52 (56.5%) / 35 (38.0%) / 5 (5.4%)
Self-Confidence (Yes/Partial/No)	82 (89.1%) / 9 (9.8%) / 1 (1.1%)
Income–Expense Balance (Balanced/Partial/Not)	28 (30.4%) / 36 (39.1%) / 28 (30.4%)
In-Service Training (Yes/No)	46 (50.0%) / 46 (50.0%)
Work Schedule (Day/Night/Rotating)	28 (30.4%) / 3 (3.3%) / 61 (66.3%)
Weekly Working Hours (≤40 / 41–60 / ≥61)	33 (35.9%) / 36 (39.1%) / 23 (25.0%)
	Mean ± SD: 52.62 ± 11.98
Change Department (Yes/No)	34 (37.0%) / 58 (63.0%)
Night Shifts (≤4 / 5–7 / 8–10 / ≥11 / None)	7 / 21 / 34 / 6 / 24 (7.6% / 22.8% / 37.0% / 6.5% / 26.1%)

Table 2 shows that statistically significant differences were observed in state and trait anxiety levels across age groups ($p < .05$), with nurses aged ≤20 years exhibiting higher anxiety scores than those in older age brackets. Job satisfaction also differed significantly by number of children ($p < .05$), with nurses who had two children reporting the highest satisfaction. Educational background was associated with differences in state anxiety levels, with

vocational high school graduates scoring higher than those with bachelor's degrees. No statistically significant differences were found in job satisfaction or anxiety scores based on marital status or gender (Tablo 2).

Table 2. Comparison of Job Satisfaction, State Anxiety, and Trait Anxiety Scores by Demographic Characteristics

Demographic Variable	Category	Job Satisfaction (Mean ± SD)	State Anxiety (Mean ± SD)	Trait Anxiety (Mean ± SD)	p-value	Significant Group Differences
Age	≤ 20 years	60.93 ± 11.79	52.43 ± 9.15	49.07 ± 8.79	*.003* (SA), .020* (TA)*	≤20 > 21–30 & ≥31 (SA, TA)
	21–30 years	63.23 ± 13.82	43.96 ± 10.71	42.26 ± 9.19		
	≥ 31 years	68.48 ± 13.28	40.08 ± 9.17	39.76 ± 7.75		
Marital Status	Married	65.07 ± 13.92	42.16 ± 9.24	41.22 ± 9.07	ns	—
	Single	63.57 ± 13.23	46.15 ± 11.73	43.96 ± 9.14		
Gender	Female	64.88 ± 13.32	44.58 ± 11.09	42.77 ± 8.95	ns	—
	Male	61.07 ± 14.67	42.07 ± 8.35	41.79 ± 10.59		
Number of Children	1 child	59.93 ± 11.43	42.57 ± 6.87	43.64 ± 10.04	.019* (JS)	2 children > 1 & ≥3 (JS)
	2 children	74.89 ± 13.70	36.33 ± 11.41	35.56 ± 10.47		
	≥ 3 children	58.83 ± 10.07	47.17 ± 1.84	42.00 ± 3.10		
Education Level	Vocational HS	61.29 ± 13.54	47.58 ± 10.49	45.58 ± 8.99	.012* (SA), .052 (TA)	Vocational HS > Bachelor's (SA)
	Associate Degree	67.47 ± 10.65	45.00 ± NA	41.11 ± 9.48		
	Bachelor's Degree	65.86 ± 14.53	40.09 ± 10.00	40.23 ± 8.48		

*p < 0.05 indicates statistical significance; ns = not significant; SA = State Anxiety; TA = Trait Anxiety; JS = Job Satisfaction; NA = Not Available.

Table 3 presents the comparison of nurses' professional characteristics with their job satisfaction, state anxiety, and trait anxiety mean scores. According to the results, statistically significant differences in job satisfaction were found based on voluntary choice of profession ($p = .007$), satisfaction with the unit ($p = .014$), income vs. expenses ($p = .004$), in-service training ($p = .005$), and thinking of changing the unit ($p = .041$). Significant differences in state anxiety were observed according to total work experience ($p = .028$), unit of work ($p = .002$), unit selection ($p = .013$), satisfaction with unit ($p = .005$), self-confidence in profession ($p = .023$), income vs. expenses ($p = .003$), and thinking of changing the unit ($p = .001$). Trait anxiety showed significant differences based on position at workplace ($p = .032$), unit of work ($p = .036$), unit selection ($p = .031$), satisfaction with unit ($p = .045$), self-confidence in profession ($p = .032$), income vs. expenses ($p = .013$), and monthly night shifts ($p = .046$). Variables such as ICU work experience, work schedule, and weekly working hours did not demonstrate statistically significant differences in any of the three measured outcomes.

Table 3. Comparison of Nurses' Professional Characteristics with Job Satisfaction, State Anxiety, and Trait Anxiety Mean Scores

Variable Group	Category	Job Satisfaction	SD	State Anxiety	SD	Trait Anxiety	SD
Position at Workplace	Staff Nurse	63.86	13.63	44.59	10.71	43.44	9.08
	Charge Nurse	67.25	12.86	41.58	10.87	37.17	8.00
	p-value			**.472**		**.417**	
Total Work Experience	<1 year	63.71	16.94	46.00	8.04	46.57	15.15
	1–5 years	63.15	12.48	46.87	11.20	43.57	8.22
	6–10 years	65.00	14.39	40.42	10.19	40.48	9.35
	11–15 years	68.75	14.38	41.88	8.13	42.00	6.50
	p-value			**.476**		**.028**	
ICU Work Experience	<1 year	65.45	15.68	42.86	10.71	40.73	10.94
	1–5 years	63.26	12.23	46.09	11.20	44.47	8.54
	6–10 years	65.27	15.73	40.47	8.30	39.73	7.71
	11–15 years	72.00	1.41	36.50	0.71	36.00	4.24
	p-value			**.460**		**.226**	
Voluntary Choice of Nursing Profession	Yes	67.14	13.70	43.07	11.43	42.20	10.09
	No	59.24	11.76	46.21	9.13	43.36	7.30
	p-value			**.007**		**.178**	
Unit	Surgical ICU	64.86	14.97	43.84	11.16	42.66	9.46
	Medical ICU	63.15	11.91	48.63	9.33	44.85	9.25
	Coronary ICU	64.53	11.69	37.40	7.80	38.47	6.71
	p-value			**.838**		**.002**	
Unit Selection	Voluntary	65.02	15.21	41.83	10.00	40.78	8.52
	Involuntary	63.29	10.77	47.55	10.92	45.24	9.51
	p-value			**.013**		**.084**	
Satisfaction with the Unit	Yes	67.10	13.59	41.89	10.44	41.21	9.51
	No	57.50	5.20	56.00	6.68	52.00	10.03
	Partial	59.00	12.47	47.67	9.93	44.41	7.18
	p-value			**.014**		**.005**	
Self-confidence in Profession	Yes	64.67	13.95	43.17	10.49	41.98	9.08
	No	62.00	—	49.00	—	35.00	—
	Partial	61.22	9.77	53.00	9.53	49.33	7.57
	p-value			**.499**		**.023**	
Income vs. Expenses	Balanced	69.04	15.20	42.14	11.48	39.64	10.14
	Not Balanced	57.61	10.78	49.75	8.13	46.61	7.52
	Partial	65.83	12.29	41.47	10.50	41.83	8.65
	p-value			**.004**		**.003**	
In-service Training	Yes	68.20	12.96	42.67	11.31	41.96	10.37
	No	60.41	13.06	45.72	9.98	43.28	7.82
	p-value			**.005**		**.175**	
Working Schedule	Day	64.18	13.85	43.11	9.43	41.07	9.03
	Night	52.67	23.54	48.00	11.36	48.67	9.61
	Rotating	64.93	12.85	44.51	11.33	43.03	9.18
	p-value			**.574**		**.745**	
Weekly Working Hours	≤40	61.70	14.89	46.15	10.45	43.88	10.35
	41–60	64.94	13.43	42.78	9.80	42.44	8.46
	≥61	67.04	11.29	43.61	12.41	41.09	8.50
	p-value			**.357**		**.241**	
Change Unit Intent	Yes	60.56	11.29	49.06	10.40	46.88	9.50
	No	66.50	14.30	41.34	9.92	40.12	8.03
	p-value			**.041**		**.001**	
Monthly Night Shifts	≤4	60.57	15.78	46.14	7.06	43.14	12.79
	5–7	67.76	13.23	41.57	9.67	40.95	7.40
	8–10	63.59	13.10	45.06	11.84	44.21	9.28
	≥11	56.83	9.93	55.83	10.65	51.17	8.11
	None	65.25	14.38	41.79	9.18	39.54	8.27
	p-value			**.281**		**.062**	

Table 4. demonstrates that emotional exhaustion and depersonalization are strongly positively correlated with both state and trait anxiety, while being negatively correlated with job satisfaction. Personal accomplishment is negatively correlated with anxiety levels and positively correlated with job satisfaction. The strongest positive correlation is between emotional exhaustion and depersonalization ($r = .698$, $p < .01$). Job satisfaction is negatively correlated with all dimensions of burnout, especially emotional exhaustion ($r = –.531$, $p < .01$) and state anxiety ($r = –.546$, $p < .01$).

Table 4. Correlation Between Burnout and Job Satisfaction, State Anxiety, and Trait Anxiety Mean Scores

	EE	**DP**	**PA**	**Job Satisfaction**	**State Anxiety (SA)**	**Trait Anxiety (TA)**
Emotional Exhaustion (EE)	1					
Depersonalization (DP)	.698 (**)	1				
Personal Accomplishment (PA)	–.486 (**)	–.297 (**)	1			
Job Satisfaction	–.531 (**)	–.418 (**)	.443 (**)	1		
State Anxiety (SA)	.598 (**)	.438 (**)	–.294 (**)	–.546 (**)	1	
Trait Anxiety (TA)	.549 (**)	.461 (**)	–.210 (*)	–.496 (**)	.694 (**)	1

4. Conclusion

In the study, it was found that nurses aged ≤20 exhibited significantly higher levels of state ($p = .003$) and trait anxiety ($p = .020$). This finding suggests that younger nurses with limited professional experience are more likely to experience stress and uncertainty in clinical settings. Indeed, Zhang et al. (2025) also reported that younger intensive care nurses are at a higher risk of burnout, decreased job engagement, and a greater tendency to leave the profession. Similarly, the research by Zhu et al. (2025) demonstrated that adverse experiences in early life increase vulnerability to both anxiety and burnout symptoms. Given that young nurses are still in the early stages of developing problem-solving skills and self-efficacy, it is natural for them to be more vulnerable in coping with stress (Yılmaz et al.,2024). Gai et al. (2025) emphasize that positive coping strategies play a critical role in enhancing professional resilience, particularly among novice nurses. Accordingly, structured support programs, mentorship pairings, and systematic orientation initiatives emerge as crucial needs for younger nursing staff.

The study also revealed that nurses with two children reported significantly higher levels of job satisfaction ($p = .019$). This finding suggests that individuals who successfully maintain a work-family life balance tend to experience greater professional fulfillment. It can be inferred that nurses with two children may have a more organized lifestyle compared to those with only one child or three or more children, thereby leading to greater satisfaction in their work life. Recent studies likewise highlight the positive impact of work-family balance on job satisfaction (Islamiah et Faruq, 2025). Furthermore, the presence of family support and job-related resources has been identified as a key mediating factor enhancing job satisfaction, especially under conditions of economic pressure (Lu et al., 2025). Therefore, considering these variables in employer policies and social support mechanisms may contribute significantly to improving nurses' professional satisfaction.

According to the results of the study, nurses who graduated from vocational high schools exhibited significantly higher levels of state anxiety compared to those with a bachelor's degree ($p = .012$). This finding indicates that as educational level increases, individuals' professional knowledge, self-confidence, and coping abilities also increase. Undergraduate nursing education provides more comprehensive theoretical knowledge, clinical decision-making competence, and problem-solving skills, all of which contribute to reduced anxiety levels (Ashoori et al., 2025). On the other hand, vocational school graduates may experience performance anxiety when they perceive themselves as inadequate in terms of academic competency and practical skills. Permatahati et al. (2025) also emphasized that academic resilience in vocational high school students is closely related to their coping skills, and that their perceived academic competence significantly affects their anxiety levels. These findings highlight the need to restructure the content and process of nursing education.

The study also found that nurses who voluntarily chose the nursing profession reported significantly higher levels of job satisfaction than those who joined the profession unwillingly ($p = .007$). This suggests that intrinsic

motivation and voluntary career choice have a direct impact on professional satisfaction. Choosing the profession willingly fosters a stronger sense of professional identity and enhances the capacity to cope with challenges, thereby increasing overall job satisfaction. Indeed, Hemade et al. (2025) pointed to the critical role of intrinsic motivation and emotional intelligence in determining job satisfaction. Additionally, extrinsic motivators—such as salary, supervision, and working conditions—have also been shown to influence nurses' job satisfaction (Sipahutar et al., 2025). These findings once again emphasize the importance of personal desire and intrinsic motivation in high-stress professions such as nursing.

Furthermore, nurses' satisfaction with the ICU in which they work was found to have a significant impact on both job satisfaction and anxiety levels. Nurses who were dissatisfied with their units reported lower job satisfaction ($p = .014$) and higher levels of state ($p = .005$) and trait anxiety ($p = .045$). This finding demonstrates the direct effect of the work environment on psychological well-being. Especially in high-stress settings such as ICUs, feeling safe, supported, and valued contributes to greater job satisfaction and reduced anxiety. Brady et al. (2025) found that leadership, adequacy of resources, and the quality of the work environment in clinical units significantly influence both job satisfaction and intention to leave. Similarly, Wojnar-Gruszka et al. (2025) reported that stress and trauma experienced by ICU personnel, when compounded by burnout, lead to elevated anxiety levels.

A significant relationship was identified between personal financial balance and both job satisfaction and anxiety levels. Nurses whose income and expenses were balanced reported higher levels of job satisfaction ($p = .004$), while also exhibiting lower levels of state ($p = .003$) and trait anxiety ($p = .013$). This finding emphasize the importance of financial security in enhancing professional satisfaction and psychological well-being. Geremias (2025) identified psychological capital and job satisfaction as significant contributors to lower stress levels among nursing professionals. Similarly, other studies have shown that financial burdens and insufficient economic resources contribute to increased levels of both burnout and anxiety (Nadarajan et al., 2025). Financial concerns place an additional strain on individuals working in high-stress environments, thereby negatively impacting job satisfaction.

This study also found that nurses who had received in-service training during their careers demonstrated significantly higher levels of job satisfaction compared to those who had not ($p = .005$). Continuous professional development helps individuals feel more competent, which directly enhances job satisfaction. In-service training not only increases knowledge but also strengthens decision-making abilities, clinical autonomy, and professional self-confidence. A study by Al-Ratrout et al. (2025) revealed that participation in a Quality and Safety Education Program significantly improved nurses' knowledge, skills, and attitudes, all of which positively influenced job satisfaction. Furthermore, Geremias (2025) underscored the mediating influence of psychological capital and professional development in enhancing nurses' resilience to occupational stressors. When combined, these factors make higher job satisfaction an inevitable outcome.

Furthermore, nurses who expressed a desire to change their units reported significantly lower levels of job satisfaction ($p = .041$), along with significantly higher levels of state anxiety ($p = .001$) and trait anxiety ($p = .000$). These findings suggest that dissatisfaction with one's current unit is associated with emotional exhaustion and psychological strain in the workplace. A request for a transfer is often an indicator of discomfort with environmental conditions. Geremias (2025) emphasized that psychological capital and job satisfaction act as mediating variables in alleviating job-related stress, while a lack of job satisfaction is associated with elevated stress levels. Additionally, Wojnar-Gruszka et al. (2025) reported that stress and burnout among intensive care workers, when combined with post-traumatic stress symptoms, elevate anxiety levels even more.

According to the study findings, a significant difference was observed between nurses' total length of professional experience and their levels of state anxiety ($p = .028$). Typically, newly recruited nurses experience higher levels of anxiety, which tend to decrease over time. This result can be explained by the gradual development of clinical skills, increased competence in patient management, and improved adaptation to the clinical environment. The literature also supports that as nurses gain experience, their stress and anxiety levels decline, a process closely linked to the enhancement of professional self-confidence (Zhang et al., 2025; Calvo, 2025).

Significant differences were also found between the type of ICU in which nurses worked and their trait anxiety levels ($p = .002$, $p = .036$). This may be attributed to variations in working conditions, patient profiles, and workload across different ICU settings. For instance, medical ICUs often involve patients with complex conditions and multiple organ failures, whereas coronary ICUs present unique stressors such as cardiac monitoring, sudden death risks, and sensitivity to invasive procedures. Xu et al. (2025) noted that delirium in coronary ICU patients increases nurses' workload and decision-making pressure, thereby influencing their anxiety levels. Additionally, the emotional triggers and psychological effects associated with different ICU types may shape nurses' experiences in distinct ways (Peach et al., 2025).

Nurses who voluntarily selected the units in which they worked reported lower levels of state ($p = .013$) and trait anxiety ($p = .031$). This finding aligns with psychological theories suggesting that individuals experience less anxiety in environments where they perceive control. Voluntary choice reflects personal suitability and intrinsic motivation, both of which contribute to higher job satisfaction and psychological resilience. Herminingsih (2025) emphasized that increased motivation in the workplace directly affects employee performance and anxiety levels. Similarly, Askarizadeh et al. (2025) demonstrated that self-care practices among healthcare professionals reduce anxiety and enhance psychological well-being.

There was also a significant difference in anxiety levels based on professional self-confidence. Nurses with high self-confidence had lower levels of both state anxiety ($p = .023$) and trait anxiety ($p = .032$). Professional self-confidence enables nurses to feel competent in clinical practice, which in turn reduces stress and anxiety while enhancing professional efficiency. Huang et al. (2025) showed that communication and empathy training helped increase nursing students' self-confidence and reduced their anxiety. Likewise, Nakayama et al. (2025) highlighted that increased clinical practice exposure and perceived professional competence enhance career self-efficacy, which is directly linked to job satisfaction. In contrast, a lack of confidence may result in difficulties in decision-making, fear of making mistakes, and susceptibility to burnout.

A significant difference was identified in trait anxiety levels based on nurses' job titles ($p = .032$). Particularly, individuals in managerial roles such as charge nurses may be exposed to distinct levels of stress due to the greater responsibilities they bear. However, the autonomy and authority associated with leadership positions may also have an anxiety-reducing effect for some individuals. Abeje et al. (2025) found that decision-making processes among nurse managers are directly influenced by factors such as self-confidence, feedback, and managerial support, all of which can affect anxiety levels. Similarly, Fukazawa et Kodaka (2025) reported that heavy responsibility and time pressure are among the main contributors to stress in nurses.

A significant relationship was also found between the number of monthly night shifts and trait anxiety levels ($p = .046$). Night shifts can disrupt physiological sleep patterns and social life, potentially leading to chronic stress and anxiety. Alghamdi and Bahari (2025) found that night shifts among nurses working in rotating schedules are associated with increased anxiety, stress, and impaired sleep quality. In particular, higher shift frequency has been linked to emotional exhaustion and reduced job satisfaction. These findings underscore the importance of careful night shift planning to safeguard nurses' mental health.

Emotional exhaustion and depersonalization showed a significant and positive relationship with both state and trait anxiety levels. This indicates that burnout has a substantial impact on both acute stress reactions (state anxiety) and general anxiety tendencies (trait anxiety). The depletion of emotional resources in professional life can lead to a heightened sense of anxiety, which over time may evolve into a feeling of detachment from the profession. The strong correlation between emotional exhaustion and depersonalization ($r = .698$, $p < .01$) suggests that these two subdimensions of burnout often develop concurrently and reinforce one another. Indeed, Zhang et al. (2025) found that emotional exhaustion among young ICU nurses is positively associated with intention to leave the job, and that organizational support mechanisms may buffer this effect. Similarly, Wojnar-Gruszka et al. (2025) emphasized that burnout in ICU nurses often co-occurs with post-traumatic stress symptoms, increasing the need for psychological support.

A negative correlation was found between perceived personal accomplishment and anxiety levels, while a positive correlation was observed between personal accomplishment and job satisfaction. In other words, nurses who perceive themselves as professionally competent experience lower levels of anxiety and greater job satisfaction. This findings highlight the critical role of feeling effective, adequate, and successful in fostering psychological resilience and motivation. Li et al. (2025) reported that nurses who derive meaning from their work and have access to adequate resources exhibit fewer depressive symptoms, suggesting that these factors serve as protective elements in fostering personal resilience. In a similar vein, Geremias (2025) emphasized the critical role of job satisfaction and psychological capital in buffering against occupational stress among nurses. Particularly in critical care settings, a sense of accomplishment not only contributes directly to patient outcomes but also functions as a buffer that enhances job satisfaction and reduces anxiety.

Job satisfaction demonstrated the strongest negative correlations with emotional exhaustion ($r = –.531$, $p < .01$) and state anxiety ($r = –.546$, $p < .01$). This clearly indicates that as burnout and anxiety increase, nurses' satisfaction with their work diminishes. Conversely, higher job satisfaction strengthens emotional resilience and reduces anxiety levels. Nadarajan et al. (2025) also found a significant relationship between job satisfaction and burnout, noting that high job demands and low levels of support contribute to compassion fatigue. Geremias (2025) further highlighted that job satisfaction serves as a critical buffer in helping nurses cope with occupational stress. The particularly strong negative correlation with state anxiety suggests that situational stressors in the workplace exert a direct pressure on job satisfaction.

5. Results

This study revealed that ICU nurses experience high levels of anxiety and burnout, which are significantly associated with lower job satisfaction. Key predictors included age, education, voluntary unit and profession choice, income balance, self-confidence, and in-service training. Burnout showed strong positive correlations with anxiety and negative correlations with job satisfaction. Improving work environments, supporting professional development, and implementing targeted interventions—particularly for younger and less experienced nurses—are essential to enhance job satisfaction and reduce psychological strain in ICU settings.

Limitations

This study has several limitations. First, its cross-sectional design prevents any causal inference between job satisfaction, burnout, and anxiety. Second, the data were collected between 2012 and 2013, which may limit the current applicability of the findings due to potential changes in healthcare systems, ICU conditions, and nursing practices over time. Third, the study was conducted in only two tertiary hospitals in a single region of Türkiye, restricting generalizability to other settings or countries. Fourth, the use of self-reported data may have led to biases stemming from subjective reporting or the tendency to respond in socially desirable ways. Lastly, uncontrolled variables such as individual personality characteristics, institutional support structures, or exposure to recent high-stress events may have affected the study outcomes. Future studies should utilize updated datasets, longitudinal designs, and multi-center sampling to validate and expand upon these findings in the current healthcare context.

Author Contributions

Conceptualization: V.G., N.K.; Study design: V.G., N.K.; Data collection: N.K., V.G.; Data analysis: N.K., V.G.; Data interpretation: N.K., V.G.; Manuscript preparation: V.G., N.K.; Critical revision for important intellectual content: V.G., N.K.; Final approval of the version to be published: V.G., N.K.

Note on Thesis Origin

This study was developed based on data originally collected for a master's thesis. The findings and analyses have been adapted for publication purposes.

Conflict of Interest

There is no conflict of interest between the authors or between the authors and any institution or organization.

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