

# A Comparison of the Work Environment and Burnout Levels of Nurses Working in Adult and Pediatric Surgery Clinics\*

## Erişkin ve Çocuk Cerrahisi Kliniklerinde Çalışan Hemşirelerin Çalışma Ortamı ve Tükenmişlik Durumlarının Karşılaştırılması

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\* This article is derived from İsmail Eryaz's master's thesis titled "A comparison of the working environment and burnout situations of nurses working in adult and pediatric clinics," conducted under the supervision of Selvinaz Albayrak at the Institute of Graduate Education, İstinye University. This study was presented as an oral presentation at the Beykent 4th International Health Sciences Research Days Congress, held in İstanbul from February 22-24, 2023.

**Cite as:** Eryaz İ, Albayrak S. A comparison of the work environment and burnout levels of nurses working in adult and pediatric surgery clinics. Journal of Health and Nursing Management. 2024;11(3):486-495.

**DOI:** 10.54304/SHYD.2024.02439

### Abstract

**Aim:** This study was conducted to compare the work environment and burnout levels of nurses working in adult and pediatric surgery clinics.

**Method:** This descriptive and comparative study was conducted between February and May 2023 in various hospitals in İstanbul with 384 nurses (196 adult surgery, 188 pediatric surgery). Data collection tools included the "Participant Information Form", "Practice Environment Scale-Nursing Work Index (PES-NWI)" and "Maslach Burnout Inventory".

**Results:** The average total score for the Nursing Work Environment Scale among nurses working in pediatric surgery clinics (Mean=2.49) was found to be statistically significantly higher than the average score of nurses working in adult surgery clinics (Mean=2.36). Nurses in pediatric clinics scored an average of 17.04 in the Emotional Exhaustion subscale, 6.61 in the Depersonalization subscale, and 22.68 in the Personal Accomplishment subscale. Nurses in adult clinics had average scores of 20.02 in Emotional Exhaustion, 7.80 in Depersonalization, and 22.75 in Personal Accomplishment. Comparisons between groups revealed significant differences in the Emotional Exhaustion and Depersonalization subscale score.

**Conclusion:** The findings from this study indicate that nurses working in adult surgery clinics experience a more negative work environment and higher levels of burnout compared to their counterparts in pediatric surgery clinics. It would be beneficial for managers to develop strategies aimed at fostering a positive nursing work environment, taking into consideration the sociodemographic, professional, and workplace characteristics of the employees.

**Keywords:** Nurse, pediatric surgical clinics, adult surgical clinics, nursing work environment, burnout.

### Öz

**Amaç:** Bu çalışma, erişkin ve çocuk cerrahisi kliniklerinde çalışan hemşirelerin çalışma ortamı ve tükenmişlik düzeylerinin karşılaştırılması amacıyla yapılmıştır.

**Yöntem:** Tanımlayıcı ve karşılaştırmalı türde olan bu çalışma, Şubat-Mayıs 2023 tarihlerinde İstanbul'da çeşitli hastanelerde 384 (196 erişkin cerrahi, 188 çocuk cerrahisinde çalışan) hemşire örnekleminde gerçekleştirilmiştir. Veri toplamada "Katılımcı Bilgi Formu", "Hemşirelik İş İndeksi-Hemşirelik Çalışma Ortamını Değerlendirme Ölçeği" ve "Maslach Tükenmişlik Ölçeği" kullanılmıştır.

**Bulgular:** Çocuk cerrahisi kliniklerinde çalışan hemşirelerin, çalışma ortamı ölçeği toplam puan ortalaması (ort=2,49), erişkin cerrahisi kliniklerinde çalışan hemşirelerin puan ortalamalarına (ort=2,36) göre istatistiksel olarak anlamlı şekilde yüksek bulunmuştur. Çocuk kliniklerinde çalışan hemşirelerin duygusal tükenme alt boyutunda ort=17,04, duyarsızlaşma alt boyutunda ort=6,61, kişisel başarı alt boyutunda ort=22,68 puan aldığı saptanmıştır. Erişkin kliniklerinde çalışan hemşirelerin duygusal tükenme alt boyutunda ort=20,02, duyarsızlaşma alt boyutunda ort=7,80, kişisel başarı alt boyutunda ort=22,75 puan aldığı bulunmuştur. Gruplar arası puanlar karşılaştırıldığında; duygusal tükenme ve duyarsızlaşma alt boyut puanları açısından anlamlı fark saptanmıştır.

**Sonuç:** Çalışmadan elde edilen bulgulara göre erişkin cerrahisi kliniklerinde çalışan hemşirelerin çocuk cerrahisi kliniklerinde çalışanlara göre çalışma ortamlarının daha olumsuz olduğu ve tükenmişlik düzeyinin daha yüksek olduğu görülmektedir. Yöneticilerin, çalışanların kişisel ve mesleki özellikleri ile mesleki ve çalışma ortamı özelliklerini de dikkate alarak olumlu çalışma ortamını sağlamaya yönelik stratejiler geliştirmesi yararlı olacaktır.

**Anahtar Sözcükler:** Hemşire, çocuk cerrahi klinikleri, erişkin cerrahi klinikleri, hemşirelik çalışma ortamı, tükenmişlik.

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**Received / Geliş:** 16.08.2024 • **Accepted / Kabul:** 19.12.2024 • **Published Online / Online Yayın:** 31.12.2024

### Introduction

One of the key conditions for ensuring the quality and safety of healthcare and nursing services is the establishment of healthy work environments in healthcare institutions (Registered Nurses Association of Ontario [RNAO], 2017). Nurses' work environment is described as organizational characteristics that promote or restrain nursing practice (Boudreau and Rhéaume, 2024). A healthy work environment is satisfying, mentally and physically safe (Wei et al., 2018), and encourages nurses to work to their full potential and provide quality care. Important factors that influence nurses' work environment are workload and staffing levels, decision-making latitude, job demands and complexity, good leadership, and the ability to participate in unit-based decisions (Lee and Scott, 2018).

In recent years, studies focusing on the impact of the nurse work environment on patient, nurse and organizational outcomes have increased (Arslan Yürümezoğlu and Sarıoğlu, 2022). Studies have demonstrated that work environments are associated with patient outcomes such as patient safety, mortality rates, length of stay, and satisfaction (Aiken et al., 2017; Kocaman et al., 2018), as well as nurse-related outcomes such as job satisfaction, retention, and turnover rates (Arslan Yürümezoğlu and Sarıoğlu, 2022; Kocaman et al., 2018; Van Bogaert et al., 2017). The literature shows that a positive nursing work environment enhances job satisfaction (Seren İntepeler et al., 2019; Swiger et al., 2017), reduces burnout and intent to leave the job among nurses (Aiken et al., 2012; Arslan Yürümezoğlu and Sarıoğlu, 2022; Kocaman et al., 2018; Swiger et al., 2017; Topçu et al., 2016), fosters a higher perception of care quality and patient safety among nurses (Aiken et al., 2012; Aiken et al., 2017; Swiger et al., 2017), reduces medication errors (Swiger et al., 2017), enhances patients' perceptions of care quality (Aiken et al., 2021), and lowers patient mortality rates (Aiken et al., 2014; Aiken et al., 2017). However, it has also been noted that nurses, who play an indispensable role in the effective and efficient delivery of healthcare services, experience burnout and leave their jobs due to unhealthy work environments, which further exacerbates the nursing shortage and leads to a decline in the quality of care (Aiken et al., 2014; Bae, 2021).

It is well-known that unhealthy work environments lead to burnout among nurses, making it crucial to identify conditions that can reduce the negative factors contributing to burnout in these environments (Mudallal et al., 2017). Issues experienced in the workplace negatively impact nurses physically, mentally, and socially, ultimately leading to burnout syndrome. Factors such as long working hours and high patient loads play a significant role in the occurrence of burnout among nurses. The decline in care quality provided by nurses experiencing burnout harms both patients and the institutions they work for (Kumareswaran and Sundram, 2024). The presence of a work environment that encourages nurses to leave their institutions increases turnover rates and reduces productivity by affecting the quality of services. To improve the quality of healthcare services, it is essential to eliminate the factors causing burnout and establish positive work environments (Efil et al., 2022).

A review of the literature reveals that while there are studies on nursing work environments and burnout, there is a notable gap in the research regarding the comparison of burnout levels and work environments between nurses working with special groups, such as children, and those working with adult populations in Turkey. Although both pediatric and adult surgical nurses face a high risk of burnout, the underlying causes may differ due to the conditions in the work environment. Surgical clinics are one of the clinics where nursing care is most needed due to the high number of patients and the dependence of patients on nurses to meet their personal needs. In adult surgical wards, the accompaniment of complex conditions or multiple chronic diseases to the surgical problems of adult patients usually requires complex care plans and treatments that may increase the workload (Güçlü and Kurşun, 2014). Nurses may experience burnout due to this high workload, complex patient needs and the often-fast pace of the work environment. In pediatric surgical wards, providing emotional support to children and communicating effectively with both the child and the family can increase the complexity of care. Managing anxious parents and communicating with children in age-appropriate ways adds an additional layer of responsibility and emotional labor that can increase stress levels and burnout risk (Ünver and Yıldırım, 2013). This high

complexity can be mentally challenging and contribute to burnout. A better understanding of the causes leading to burnout symptoms in work environments and identifying key interventions for strategic nursing workforce planning are essential for healthy work environments. The contribution of this study to the field of nursing lies in examining whether changes in patient profiles, in addition to the work environment, influence the process that leads nurses to burnout. Furthermore, the findings from this study are expected to shed light on the effects of the nursing work environment on burnout levels among nurses working with different patient groups. These results are anticipated to inform the planning of initiatives aimed at improving the nursing work environment, thereby fostering positive work settings and enhancing the quality of care.

## Method

**Aim and Type of the Research:** The study was conducted with a cross-sectional and descriptive design to compare the working environment and burnout levels of nurses working in adult and pediatric surgery clinics.

**Research Questions:** The following research questions were addressed in the study:

- Is there a difference between the work environment of nurses who are working in pediatric surgery and adult surgery clinics?
- What is the level of burnout (high, moderate, or low) among nurses working in pediatric and adult surgical clinics, and is there a difference in their burnout levels?

**Research Population and Sample:** The population of the study consisted of nurses working in pediatric and adult clinics in inpatient healthcare institutions (state, university, and private hospitals) across Turkey. The sample size was determined as 384 nurses (192 working in adult surgery units and 192 working in pediatric units) based on a known population sample size calculation method with a 95% confidence interval. Data for the study were collected through an online survey between February 20 and May 20, 2023. The study was completed with the participation of 384 nurses (188 working in pediatric units and 196 in adult units) from state, university, and private hospitals across Turkey.

**Data Collection Tools:** The research data were collected using the "Participant Information Form," which includes descriptive information on the socio-demographic and professional characteristics of the nurses, the "Practice Environment Scale-Nursing Work Index" to evaluate the work environment, and the "Maslach Burnout Inventory" to assess burnout levels.

*Participant Information Form:* Developed by the researcher, this form consists of 11 questions covering the socio-demographic (age, gender, marital status, education level) and professional characteristics (unit worked in, duration of employment in the profession, institution, and unit, work schedule) of the nurses.

*Practice Environment Scale-Nursing Work Index (PES-NWI):* The 31-item scale, developed by Lake (2002), comprises five subscale. The Turkish version's validity and reliability were confirmed by Türkmen et al. (2011). The scale is a four-point Likert type, with items scored from "strongly disagree - 1", "disagree - 2", "agree - 3", and "strongly agree - 4". For subscale scores, the total points of the relevant items are summed and divided by the number of items, yielding a score between 1 and 4. To calculate the overall scale score, the average of the five subscale scores is summed and divided by five, resulting in a scale score between 1 and 4. As the score increases, the perception of the work environment becomes more positive. Additionally, if the average score of four or five subscales is 2.5 or higher, the work environment is considered good. If the average score of two or three subscales is 2.5 or higher, the work environment is considered moderately positive (mixed). A score of 2.5 or higher in just one subscale indicates a negative work environment (Lake and Friese, 2006). The original scale's Cronbach's alpha was reported by Lake (2002) as 0.82, and by Türkmen et al. (2011) as 0.94. The subscale Cronbach's alpha values for the original scale ranged from 0.71 to 0.84 (Lake, 2002), while for the Turkish version, they ranged from 0.80 to 0.87 (Türkmen et al., 2011). In this study, the overall Cronbach's alpha was calculated as 0.94, with subscale Cronbach's alpha values ranging from 0.78 to 0.87.

**Maslach Burnout Inventory (MBI):** The Maslach Burnout Inventory (MBI), developed by Maslach and Jackson in 1981 and widely known in the literature by Maslach's name, is a seven-point Likert-type scale. This measurement tool consists of a total of 22 items divided into three subscales. The "Emotional Exhaustion (EE)" subscale includes 9 items, the "Depersonalization (DP)" subscale consists of 5 items, and the "Personal Accomplishment (PA)" subscale contains 8 items. The scale items are scored on a range from "1: never" to "7: always." The MBI was translated into Turkish by Ergin (1993), and after a pilot study with a group of 235 participants (including doctors, nurses, teachers, lawyers, and police officers), adjustments were made to the original scale based on data analysis. Specifically, the response options, originally rated on a seven-point scale, were modified to a five-point scale with response choices ranging from "0: never" to "4: always." This revised five-point version was used in the study.

In the scoring process, three separate burnout scores are calculated for each individual. High scores in the "Emotional Exhaustion" and "Depersonalization" subscales, combined with low scores in the "Personal Accomplishment" subscale, indicate a high level of burnout (Ergin, 1993). Specifically, scores above 27 for Emotional Exhaustion and above 10 for Depersonalization, along with scores equal to or below 33 for Personal Accomplishment, reflect high levels of burnout. Moderate burnout is indicated by scores between 19-26 for Emotional Exhaustion, 6-9 for Depersonalization, and 34-39 for Personal Accomplishment. Lastly, low levels of burnout are signified by scores of 18 or below for Emotional Exhaustion, 5 or below for Depersonalization, and 40 or above for Personal Accomplishment (Maslach et al., 1996). Due to the scoring differences between the original scale and the Turkish version, the cut-off scores for each subscale were determined using the MBI Guide. In the Turkish adaptation of the scale, Cronbach's alpha values for the subscales were calculated to range between 0.72-0.83 (Ergin, 1993). In this study, the Cronbach's alpha values for the subscales ranged between 0.70-0.89, indicating an acceptable level of reliability.

**Data Collection:** Research data were collected after obtaining Ethics Committee approval between February 20 and May 20, 2023. The data collection form, created through an online data collection system (Google Forms), was distributed to nurses working in surgical and pediatric clinics via announcements on social media. In the study, snowball sampling techniques were employed. The purpose of using the snowball technique was to increase the participation of nurses in the study (Østergaard et al., 2020). The survey link was initially shared via WhatsApp and email groups with nurses who were in contact with the researchers. Recipients of the link were asked to participate in the survey and forward the link to potential participants. Nurses who clicked on the research link were asked to read and approve the consent form before filling out the survey form. Completing the data collection instruments took an average of 8-10 minutes.

**Ethical Considerations:** To conduct the research, Ethics Committee approval numbered 23-32 was obtained from the Ethics Committee of the foundation university on February 2, 2023. On the first page of the online survey, the purpose of the study was explained, anonymity of the study was assured, and participants were asked to confirm their consent to participate. Participants could then access the survey by clicking the "Yes" button. Permission to use the scale was obtained via email from the authors who adapted it into Turkish. The research was conducted in accordance with the principles of the Declaration of Helsinki.

**Data Analysis:** The data obtained from the research were analyzed using the IBM SPSS Statistics Program version 26.0 (IBM Statistical Package for Social Sciences-SPSS; Armonk, NY, USA). In the evaluation of the data, descriptive statistical methods such as frequency, percentage, mean, and standard deviation were used. In the analyses conducted, Skewness and Kurtosis values fell within the range of -1.5 to +1.5, indicating that the data followed a normal distribution. Chi-square analysis was applied to examine the similarities in demographic characteristics between pediatric and adult service nurses. To compare scale scores based on socio-demographic and professional characteristics between groups, independent samples t-test (for  $n \geq 30$ ) and Mann-Whitney U test (for  $n < 30$ ) were utilized. The results were assessed for significance at a 95% confidence level.

### Results

The demographic and professional characteristics of the participants are presented in Table 1.

**Table 1. Comparison of socio-demographic and professional characteristics of nurses working in adult surgical and pediatric surgical clinics (N=384)**

Variables		Pediatric Clinics (n=188)		Adult Clinics (n=196)		X <sup>2</sup>	p
		Number	%	Number	%		
Age	20-26	96	51.0	90	45.9	14.985	<b>&lt;0.001</b>
	27-30	51	27.1	85	43.3		
	>30	41	21.8	21	10.8		
Gender	Female	173	92.1	159	81.1	9.736	<b>0.002*</b>
	Male	15	7.9	37	18.9		
Marital status	Married	70	37.2	60	30.6	1.879	0.170
	Single	118	62.8	136	69.4		
Education level	VHS+Associate degree	28	14.8	32	16.3	4.368	0.224
	Bachelor degree	137	72.8	152	77.5		
	Postgraduate	23	12.4	12	6.2		
Position	Nurse	174	92.5	188	95.9	2.012	0.156
	Nurse manager	14	7.5	8	4.1		
Experience in the profession	6 month – 2 years	40	21.2	43	21.9	7.810	0.099
	3–5 years	84	44.6	101	51.5		
	>5 years	64	34.2	52	26.6		
Working time in the hospital	6 month – 2 years	49	26.0	64	32.6	30.145	<b>0.001*</b>
	3-5 years	92	48.9	120	61.2		
	>5 years	47	25.1	12	6.1		
Working time in the unit	6 month –1 years	34	18.2	46	23.5	11.716	<b>0.008*</b>
	1–2 years	42	22.3	56	28.6		
	3–5 years	74	39.3	77	39.2		
	>5 years	38	20.2	17	8.7		
Participation in certification program	Yes	67	35.6	61	31.2	0.881	0.348
	No	121	64.4	135	68.8		
Perception of professional autonomy	Very high	34	18.1	26	13.2	6.531	0.088
	High	128	68.1	130	66.3		
	Low	26	13.8	40	20.5		

\*p<0.01

When examining the employment status and professional characteristics of the participants, it was found that 44.6% of the nurses in the pediatric unit and 51.5% of the nurses in the adult unit had been working in the profession for 3-5 years. Additionally, 64.4% of the nurses in the pediatric unit and 68.8% of the nurses in the adult unit had not participated in a certification program, while 68.1% of the nurses in the pediatric unit and 66.3% of the nurses in the adult unit perceived their professional autonomy as high. It was determined that 48.9% of the nurses in the pediatric unit and 61.2% of the nurses in the surgical unit had been working at the institution for 3-5 years, and that 39.3% of the nurses in the pediatric unit and 39.2% of the nurses in the adult unit had been working in their respective units for 3-5 years.

The work environment scores of nurses working in adult and pediatric units were compared, and the results are presented in Table 2.

**Table 2. Comparison of practice environment scale-nursing work index in pediatric and adult surgical clinics**

	Pediatric Clinics (n=188)		Adult Clinics (n=196)		t	p
	Mean	SD	Mean	SD		
Nurse participation in hospital affairs subscale	2,44	0.57	2.25	0.61	3.110	<b>0.002**</b>
Nursing foundations for quality of care subscale	2,62	0.48	2.55	0.53	1.347	0.089
Nurse manager ability, leadership and support of nurse's subscale	2,50	0.67	2.29	0.66	3.113	<b>&lt;0.001</b>
Staffing and resource adequacy subscale	2,15	0.61	2.07	0.60	1.185	0.118
Collegial nurse-physician relations subscale	2.67	0.58	2.56	0.68	1.619	0.053
Total scale score	2.49	0.48	2.36	0.52	2.544	<b>0.011*</b>

\*p<0,05; \*\*p<0,01

When the participants' PES-NWI Nurse Participation in Hospital Affairs Subscale scores were examined, it was determined that the mean subscale score of the nurses working in pediatric clinics (mean=2.44; SD=0.57) was statistically significantly higher than the mean score of the nurses working in the adult clinics (mean=2.25; SD=0.61) (t= 3.110; p<0.01).

When the participants' PES-NWI Nursing Foundations for Quality Care Subscale scores were examined, it was determined that the mean subscale score of the nurses working in pediatric clinics (mean=2.68; SD=0.48) was higher than the mean score of the nurses working in adult clinics (mean=2.55; SD=0.53), but the difference between them was not statistically significant (t= 1.347; p>0.05).

When the participants' PES-NWI Nurse Manager Ability, Leadership, and Support of Nurses Subscale scores were examined, it was found that the mean subscale score of the nurses working in pediatric clinics (mean=2.50; SD=0.67) was statistically significantly higher than the mean score of the nurses working in adult clinics (mean=2.29; SD=0.66) (t= 3.113; p<0.001).

When the participants' PES-NWI Staffing and Resource Adequacy Subscale scores were examined, it was found that the mean subscale score of nurses working in pediatric clinics (mean=2.15; SD=0.61) was higher than the mean score of nurses working in adult clinics (mean=2.07; SD=0.60), but the difference between them was not statistically significant (t= 1.185; p>0.05).

When the participants' PES-NWI Collegial Nurse-Physician Relations Subscale scores were examined, it was found that the mean subscale score of nurses working in pediatric clinics (mean=2.67; SD=0.58) was higher than the mean score of nurses working in adult clinics (mean=2.56; SD=0.68), but the difference between them was not statistically significant (t= 1.619; p>0.05).

When examining the total scores on the PES-NWI, the mean score for nurses working in pediatric clinics (mean=2.49; SD=0.48) was found to be statistically significantly higher than the mean scores for nurses working in adult clinics (mean=2.36; SD=0.52) (t=2.544; p<0.05) (Table 2).

The burnout scores of nurses working in adult and pediatric units were compared, and the results are presented in Table 3.

**Table 3. Comparison of Maslach Burnout Inventory in pediatric and adult surgical clinics**

Subscales	Pediatric Clinics (n=188)		Adult Clinics (n=196)		t	p
	Mean	SD	Mean	SD		
Emotional exhaustion	17.04	7.01	20.02	7.04	-4.434	<0.001
Depersonalization	6.61	3.89	7.80	4.16	-2.888	0.002*
Personal accomplishment	22.68	6.82	22.75	6.01	-0.114	0.455

\*p<0.01

Nurses in pediatric clinics had scores of mean=17.04 (SD=7.01) for emotional exhaustion, mean=6.61 (SD=3.89) for depersonalization, and mean=22.68 (SD=6.82) for personal accomplishment. Nurses in adult clinics had scores of mean=20.02 (SD=7.04) for emotional exhaustion, mean=7.80 (SD=4.16) for depersonalization, and mean=22.75 (SD=6.01) for personal accomplishment. When comparing scores between the groups, significant differences were found in terms of emotional exhaustion and depersonalization subscale scores ( $p<0.001$ ;  $p<0.01$ , respectively).

## Discussion

This study, it was determined that the work environment scores of nurses working in both pediatric and adult surgical clinics were at a moderate level. Similar to our findings, studies in the literature report that nurses' perceptions of their work environment are mostly at a moderate level (Dirik and İntepeler, 2017; Özkan et al., 2023; Pehlivan, 2023; Pérez-Campos et al., 2014). In their study, Al-Hamdan and Tanima indicated that the unit in which nurses work influences their positive evaluation of the work environment (Al-Hamdan, Manojlovich and Tanima, 2017). Surgical clinics, operating rooms, and intensive care units are areas where critical thinking, quick decision-making, and immediate implementation are essential, with intense teamwork at the highest level. This can occasionally lead to communication issues and role ambiguity. Additionally, the high patient turnover in surgical units and the heavy care burden due to the presence of both surgical and chronic conditions in adult patients may contribute to a more negative perception of the work environment.

This study, it was determined that nurses working in pediatric units had higher average total work environment scores compared to those working in adult units and perceived their work environment more positively. This difference in nursing work environment scores may be related to working with pediatric patients, the working conditions in pediatric surgical units, structural, managerial, and financial resource differences in the institutions where the research was conducted, as well as the high turnover rates and nurse-to-patient ratios in adult surgery units.

This research, it was found that the highest score in the subscales of the work environment scale was in collegial nurse-physician relations, while the lowest score was in the staffing and resource adequacy. These results indicate that communication within the team is good, but manpower and other resources are insufficient. Similar studies in the literature support our findings (Aslan and Gökdemir, 2019; Dirik and İntepeler, 2017; Erdağı et al., 2015; Kökçü et al., 2018). The good relationship between physicians and nurses not only suggests strong teamwork and collaboration but also implies that this may positively reflect patient care outcomes.

For quality nursing care, good interprofessional communication alone is not sufficient; it is also important to have adequate and qualified staff, accessible resources, and the ability for nurses to make decisions independently in the care process (Alenius et al., 2014; Altınöz and Demir, 2017). This study, the low scores given by nurses on the "staffing and resource adequacy" subscale highlight the presence of workforce shortages in the institution, which is a global issue, while also reflecting unhealthy work structures such as long working hours, insufficient employee safety, excessive workloads, and unsatisfactory wages (Kebapçı and Akyolcu, 2011; Kocaman et al., 2018). Supporting nurses' participation in decision-making, ensuring the provision of necessary resources for quality care, the attitudes of nurse managers, the adequacy of the workforce, and effective communication can contribute to improving work environments.

In the comparison of burnout scores between nurses working in adult and pediatric clinics, it was found that nurses in pediatric clinics scored an average of 17.04 in the emotional exhaustion subscale, 6.61 in the depersonalization subscale, and 22.68 in the personal accomplishment subscale. On the other hand, nurses in adult clinics scored an average of 20.02 in the emotional exhaustion subscale, 7.80 in the depersonalization subscale, and 6.01 in the personal accomplishment subscale. A significant difference was found between the groups in terms of emotional exhaustion and depersonalization subscale scores. No studies were found in the literature that directly compare the burnout levels of nurses working in pediatric and adult surgical units. However, it has been identified that intensive care units and neonatal intensive care units are the places where burnout is most prevalent and another study reported that nurses working in surgical departments had higher personal accomplishment scores, a subscale of the burnout scale, compared to those working in internal medicine clinics (Altay et al., 2010; Karahaliloğlu et al., 2019). According to research conducted with a group of nurses working in surgical clinics in Turkey, it was concluded that there was a moderate perception of a positive work environment, and the perception of safety culture was not at a high level, which is significant in terms of nurse burnout (Erdağı and Özer, 2015). Although statistical differences are observed between departments in many studies, it is generally seen that burnout scores are higher among those working in surgical departments (Çilingir et al., 2012; Karahaliloğlu et al., 2019). There are also studies conducted outside of surgical services in literature. In the study by Kebapçı and Akyolcu (2011) examining the impact of the work environment on burnout levels among nurses working in emergency units, it was revealed that nurses

experience high levels of depersonalization and burnout. The authors argued that it is possible to prevent depersonalization and burnout by establishing positive professional relationships, eliminating hierarchical problems, providing opportunities for nurses to engage in social activities outside of work, regulating working hours, and clearly defining job responsibilities. This study was determined that while the burnout levels of nurses working in both groups were moderate, the emotional exhaustion levels of nurses working in pediatric surgical units were lower than those of nurses working in adult surgical units. This difference may be related to the higher patient load in adult surgical units, the presence of chronic illnesses in addition to surgical problems, heavier workloads, and more challenging working conditions, as well as issues related to nurse staffing.

**Limitations of the Research:** The results of this study are limited to the perspectives of the nurses who participated.

## Conclusion and Recommendations

This study revealed a significantly more negative nursing work environment in adult surgical services compared to pediatric surgical services. Furthermore, nurses in adult surgical services exhibited higher levels of emotional exhaustion and depersonalization. This study, believed to be the first of its kind in Turkey, underscores the need for improvements in the work environment of adult surgical services due to the elevated burnout risk among nurses in these units. Nurse managers should prioritize the optimization of the work environment in adult surgical services by considering the negative work environment and burnout experienced by nurses when planning nursing staffing. This approach aims to enhance nurses' efficiency and effectiveness.

**Author Contribution:** The authors confirm contribution to the paper as follows; study conception and design: İE, SA; data collection: İE; analysis and interpretation of results: İE, SA; draft manuscript preparation: İE, SA. All authors reviewed the results and approved the final version of the manuscript.

**Ethics Committee Approval:** Human Research Ethics Committee of the Istinye University approval was obtained (Date: 02.02.2023 - Number: 23-32).

**Conflict of Interest:** The authors declare that there is no conflict of interest.

**Funding:** The authors declare that the study has no financial support.

**Informed Consent:** Informed consent of the participants were obtained.

**Yazarlık Katkısı:** Yazarlar makaleye katkılarını şu şekilde beyan etmektedir; çalışma fikri ve tasarımı: İE, SA; veri toplama: İE; sonuçların analizi ve yorumlanması: İE, SA; aday makalenin hazırlaması: İE, SA. Tüm yazarlar sonuçları gözden geçirdi ve makalenin son halini onayladı.

**Etik Kurul Onayı:** İstinye Üniversitesi İnsan Araştırmaları Etik Kurulu tarafından onaylanmıştır (Tarih: 02.02.2023 - Karar No: 23-32).

**Çıkar Çatışması:** Yazarlar herhangi bir çıkar çatışması olmadığını beyan ederler.

**Finansal Destek:** Yazarlar çalışmanın finansman desteği olmadığını beyan ederler.

**Katılımcı Onamı:** Katılımcıların bilgilendirilmiş onamları alınmıştır.

## References

- Aiken, L. H., Sermeus, W., Van den Heede, K., Sloane, D. M., Busse, R., McKee, M., . . . & Kutney-Lee, A. (2012). Patient safety, satisfaction, and quality of hospital care: Cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *British Medical Journal*, *344* (e1717), 1-14. <https://doi.org/10.1136/bmj.e1717>
- Aiken, L. H., Sloane, D. M., Bruyneel, L., Van den Heede, K., Griffiths, P., Busse, R., ... & Sermeus, W. (2014). Nurse staffing and education and hospital mortality in nine European countries: A retrospective observational study. *The Lancet*, *383*(9931), 1824-1830. [https://doi.org/10.1016/S0140-6736\(13\)62631-8](https://doi.org/10.1016/S0140-6736(13)62631-8)
- Aiken, L. H., Sloane, D., Griffiths, P., Rafferty, A. M., Bruyneel, L., McHugh, M., ... & Sermeus, W. (2017). Nursing skill mix in European hospitals: Cross-sectional study of the association with mortality, patient ratings, and quality of care. *British Medical Journal Quality & Safety*, *26*(7), 559-568. <https://doi.org/10.1136/bmjqs-2016-005567>
- Aiken, L. H., Sloane, D. M., Ball, J., Bruyneel, L., Rafferty, A. M. & Griffiths, P. (2021). Patient satisfaction with hospital care and nurses in England: An observational study. *British Medical Journal Open*, *8*(1), e019189. <https://doi.org/10.1136/bmjopen-2017-019189>
- Alenius, L. S., Tishelman, C., Runesdotter, S. & Lindqvist, R. (2014). Staffing and resource adequacy strongly related to RNs' assessment of patient safety: a national study of RNs working in acute-care hospitals in Sweden. *BMJ Quality & Safety*. *23*(3), 242- 249. <https://doi.org/10.1136/bmjqs-2012-001734>



- Al-Hamdan, Z., Manojlovich, M. & Tanima, B. (2017). Jordanian nursing work environments, intent to stay, and job satisfaction. *Journal of Nursing Scholarship*, 49(1), 103-110. <https://doi.org/10.1111/jnu.12265>
- Altay, B., Gönener, D. & Demirkıran, C. (2010). The level of burnout and influence of family support in nurses working in a university hospital. *Fırat Medical Journal*, 15(1), 10-16
- Altınöz, Ü. & Demir, S. (2017). Intensive care nurses' perceptions of their work environment, psychological distress and the factors that affect them. *Journal of Psychiatric Nursing*, 8(2), 95-101. <https://doi.org/10.14744/phd.2017.03016>
- Arslan Yürümezoğlu, H. & Sarıoğlu, E. (2022). Effects of work environment, shift durations, and patient nurse ratio on nurse outcomes: A scoping review. *Journal of Health and Nursing Management*, 9(1), 153-167. <https://doi.org/10.54304/SHYD.2022.91259>
- Aslan, M. & Gökdemir, S. (2019). Working environment perceptions of nurses working in hospital: The case of thrace. *Journal of Higher Education and Science*, (3), 614-621. <https://doi.org/10.5961/jhes.2019.359>
- Bae, S. H. (2021). Relationships between comprehensive characteristics of nurse work schedules and adverse patient outcomes: A systematic literature review. *Journal of Clinical Nursing*, 30(15-16), 2201-21. <https://doi.org/10.1111/jocn.15728>
- Boudreau, C. & Rhéaume, A. (2024). Impact of the work environment on nurse Outcomes: A Mediation Analysis. *Western Journal of Nursing Research*, 46(3), 210-218. <https://doi.org/10.1177/01939459241230369>
- Çilingir, D., Gürsoy, A. & Colak, A. (2012). Burnout and job satisfaction in surgical nurses and other ward nurses in a tertiary hospital: A comparative study in Turkey. *Health Med*, 6(9), 120, 3120-3128.
- Dirik, H. F. & İntepeler, S. S. (2017). The work environment and empowerment as predictors of patient safety culture in Turkey. *Journal of Nursing Management*, 25(4), 256-265. <https://doi.org/10.1111/jonm.12458>
- Efil, S., Turen, S., Yıldız Ayvaz, M., Bülbül, E. & Yeni, T. (2022). Burnout levels and care behaviors in intensive care nurses: A cross-sectional, multicenter study. *Intensive and Critical Care Nursing*, 71, 103246. <https://doi.org/10.1016/j.iccn.2022.103246>
- Erdağı, S. & Nadiye, Ö. (2015). Examining practice environments, patient safety culture perceptions and burnout status of nurses working in surgical clinics. *Journal of Anatolia Nursing and Health Sciences*, 18(2), 94-106. <https://doi.org/10.17049/ahsbd.90265>
- Ergin, C. (1993) Reliability and validity of Maslach Burnout Inventory in nurses and physicians. Paper presented at the VII. National Psychology Congress, September 22-25, 1992, Ankara, pp. 143-154 (in Turkish)
- Güçlü, A. & Kurşun, Ş. (2018). Cerrahi kliniklerinde çalışan hemşirelerin iş yaşam kalitesi ve ilişkili faktörler. *Florence Nightingale Journal of Nursing*, 26(3), 187-197. <https://doi.org/10.26650/FNJJN285947>
- Karahilaloğlu, N., Özdemir, K., Yorulmaz, E. & Yorulmaz, H. (2019). Determination of burnout and job satisfaction levels in nurses working in the surgical clinics. *Bagcilar Medical Bulletin*, 4(2), 31-41. <https://doi.org/10.4274/BMB.galenos.2019.15406>
- Kebapçı, A. & Akyolcu, N. (2011). The effects of the work environment on nurse burnout in emergency department. *Turkish Journal of Emergency Medicine*, 11(2), 59-67. <https://doi.org/10.5505/1304.7361.2011.43827>
- Kocaman, G., Yürümezoğlu, H. A., Uncu, S., Türkmen, E., Göktepe, N. & İntepeler, Ş.S. (2018). The development of healthy work environment standards for nurses in Turkey. *Journal of Education and Research in Nursing*, 15(1), 30-38. <https://doi.org/10.5222/HEAD.2018.030>
- Kökçü, Ö. D. & Terzi, B. (2018). Investigation of care nurses in the intensive work index-working environment and burnout levels. *Journal of Intensive Care Nursing*, 22(2), 66-72
- Kumareswaran, S. & Sundram, B. M. (2024). Burnout and patient care quality: A systematic review of the impact on healthcare workers. *Philippine Journal of Science*, 153(5), 1679-1690
- Lake, E. T. (2002). Development of the practice environment scale of the nursing work index. *Research in Nursing & Health*, 25(3), 176-188. <https://doi.org/10.1002/nur.10032>
- Lake, E. T. & Friese, C. R. (2006). Variations in nursing practice environments: Relation to staffing and hospital characteristics. *Nursing Research*, 55(1), 1-9. <https://doi.org/10.1097/00006199-200601000-00001>
- Lee, S. E. & Scott, L. D. (2018). Hospital nurses' work environment characteristics and patient safety outcomes: A literature review. *Western Journal of Nursing Research*, 40(1), 121-145. <https://doi.org/10.1177/0193945916666071>
- Maslach, C. & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behaviour*, 2, 99-103.
- Maslach, C., Leiter, M. P. & Jackson, S. E. (1996) Maslach Burnout Inventory Manual and non-reproducible instrument and scoring guides. Retrieved from <https://www.scribd.com/document/668951451/Maslach-Manual-Burnout> (Erişim: 02.05.2022)).
- Mudallal, R. H., Othman, W. A. M. & Al Hassan, N. F. (2017). Nurses' burnout: The influence of leader empowering behaviors, work conditions, and demographic traits. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, 54, 1-10. <https://doi.org/10.1177/0046958017724944>
- Özkan, S., Arslan, E. & Çınar, H. (2023). The relationship between the working environment and patient safety attitudes of nurses working in the operating room: Cross-sectional study *Journal of Nursing Science*, 6(3), 157-164. <https://doi.org/10.54189/hbd.1334279>

- Pehlivan, M. (2023). Evaluation of the relationship between working environment and nurses' burnout levels: An example of a university hospital. (Master's Thesis). Biruni University Graduate Education Institute, Istanbul, Türkiye. (in Turkish)
- Pérez-Campos, M. A., Sánchez-García, I. & Pancorbo-Hidalgo, P. L. (2014). Knowledge, attitude and use of evidence-based practice among nurses active on the internet. *Investigación y Educación en Enfermería*, 32(3), 451-460. <https://doi.org/10.17533/udea.iee.v32n3a10>
- Østergaard, B., Clausen, A. M., Agerskov, H., Brødsgaard, A., Dieperink, K.B., Funderskov, K. F., ... & Konradsen, H. (2020). Nurses' attitudes regarding the importance of families in nursing care: A cross-sectional study. *Journal of Clinical Nursing*, 29(7-8), 1290-1301. <https://doi.org/10.1111/jocn.15196>
- Registered Nurses' Association of Ontario (RNAO). (2017). Developing and sustaining safe, effective staffing and workload practices (2nd ed.). Toronto, ON: Registered Nurses' Association of Ontario. Retrieved from [https://rnao.ca/sites/rnao-ca/files/bpg/Staffing\\_and\\_Workload\\_Practices\\_FINAL.pdf](https://rnao.ca/sites/rnao-ca/files/bpg/Staffing_and_Workload_Practices_FINAL.pdf)
- Seren İntepeler, S., Eşrefgil, G., Yılmazmı, F., Bengü, N., Güneş Dinç, N., İleri, S., ... & Dirik, H. F. (2019). Role of job satisfaction and work environment on the organizational commitment of nurses: A cross-sectional study. *Contemporary Nurse*, 55(4-5), 380-390. <https://doi.org/10.1080/10376178.2019.1673668>
- Swiger, P. A., Patrician, P. A., Miltner, R. S. S., Raju, D., Breckenridge-Sproat, S. & Loan, L. A. (2017). The practice environment scale of the nursing work index: An updated review and recommendations for use. *International Journal of Nursing Studies*, 74, 76-84. <https://doi.org/10.1016/j.ijnurstu.2017.06.003>
- Topçu, I., Türkmen, E., Badır, A., Göktepe, N., Miral, M., Albayrak, S., ... & Özcan, D. (2016). Relationship between nurses' practice environments and nursing outcomes in Turkey. *International Nursing Review*, 63(2), 242-249. <https://doi.org/10.1111/inr.12247>
- Türkmen, E., Badır, A., Balcı, S. & Topçu-Akkuş, S. (2011). The adaptation of the practice environment scale of the nursing work index into Turkish: Reliability and validity study, *Journal of Research and Development in Nursing*, 13(2), 5-20.
- Ünver, S. & Yıldırım, M. (2013). Approach to pediatric patients during surgical interventions. *The Journal of Current Pediatrics*, 11(3), 128-133. <https://doi.org/10.4274/Jcp.11.35229>
- Van Bogaert P, Peremans L, Van Heusden D, Verspuy, M., Kureckova, V., Van de Cruys, Z., & Franck, E. (2017). Predictors of burnout, work engagement and nurse reported job outcomes and quality of care: a mixed methods study. *BMC Nurs.*, 16(5), 1-14. <https://doi.org/10.1186/s12912-016-0200-4>
- Wei, H., Sewell, K. A., Woody, G. & Rose, M. A. (2018). The state of the science of nurse work environments in the United States: A systematic review. *International Journal of Nursing Sciences*, 5(3), 287-300. <https://doi.org/10.1016/j.ijnss.2018.04.010>