

Job Satisfaction and Burnout among Nurses Working in Critical Care Units

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Abstract

Background: Burnout among critical care nurses is a growing concern due to the high-stress environment of Intensive Care Units (ICUs). Understanding how these professionals cope with stress and how it impacts their job satisfaction is essential for improving workplace well-being and patient care outcomes. *Objectives:* This study aimed to examine the levels of burnout among critical care nurses, identify their coping strategies, and explore the relationship between these variables and job satisfaction. *Methods:* A cross-sectional study was conducted with 620 critical care nurses recruited through convenience sampling from multiple healthcare facilities. Data were collected using validated self-report questionnaires: the Maslach Burnout Inventory (MBI) to assess burnout, the Ways of Coping (WOC) scale to identify coping mechanisms, and the Job Satisfaction Scale (JSS) to evaluate overall job satisfaction. *Statistical analyses,* including descriptive statistics, factor analysis, and ordinal logistic regression, were performed using SPSS (version 22.0). *Results:* The majority of participants were female (83.9%), with diverse demographic backgrounds. Emotional exhaustion and depersonalization were significantly associated with lower job satisfaction. Factor analysis confirmed the multidimensional nature of coping, revealing a predominant use of emotion-focused strategies. Ordinal logistic regression identified key predictors of burnout, including coping style, satisfaction levels, and demographic factors. *Conclusions:* High levels of burnout were observed among ICU nurses, particularly among those using maladaptive coping strategies. Job satisfaction emerged as a protective factor. These findings underscore the need for targeted interventions to promote effective coping and enhance job satisfaction, which could reduce burnout in high-stress healthcare environments.

Keywords: burnout, coping strategies, critical care, job satisfaction, nursing workforce.

Introduction

Workplace stress is a key factor influencing psychological discomfort, maladaptive behaviors, and difficulties in social functioning [1]. This stress often manifests as burnout among healthcare professionals, especially nurses—a multidimensional condition characterized by emotional exhaustion, depersonalization, and a diminished sense of accomplishment [2]. Burnout is recognized as a condition closely associated with coping strategies and job satisfaction [3].

One of the most critical aspects of burnout is emotional exhaustion, which leaves nurses feeling drained and psychologically unable to continue providing quality care [3]. Coping strategies play a central role in moderating stress and its effects on emotional well-being [4]. These strategies are influenced not just by the nature of stressors but by the individual's perception of those stressors [5,6]. Seeking support—both

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emotional and practical—is often reported as an effective coping behavior in challenging healthcare settings [7].

Implementing successful coping strategies can significantly reduce the occurrence of burnout and improve overall job satisfaction [8]. This is particularly important in critical care environments, where nurses are frequently exposed to life-threatening situations, complex decision-making, and emotional intensity [9]. Prior research has noted potential gender differences in burnout symptoms, such as depersonalization, warranting further exploration [10].

It is essential to consider the extent to which coping strategies relate to the experience of burnout and whether gender modifies these relationships [10]. High-stress work environments contribute to emotional strain, potentially leading to psychological disorders, low job satisfaction, and even decisions to leave the profession [11–13]. Burnout also has broader implications, including increased costs and inefficiencies within healthcare systems [14,15].

Health organizations must recognize stress as an inherent part of nursing roles and respond by promoting adaptive coping mechanisms [7]. Coping is broadly understood as the collection of thoughts and behaviors used by individuals to manage internal or external demands deemed taxing or exceeding their resources [12]. Burnout, while common in helping professions, can be mitigated through support at both the individual and institutional levels [3,7].

There is a strong connection between personality traits, coping behaviors, and the development of burnout. Adaptive personality features are often associated with active coping strategies, although the exact mechanisms remain unclear [16]. More research is needed to better understand how these traits interact with stress and coping in real-world healthcare environments [14].

Coping behaviors not only help manage negative experiences but also contribute to maintaining positive emotional states. These mechanisms differ in their cognitive basis and outcomes [6]. Coping processes that encourage positive appraisal may serve as protective factors in high-stress occupations such as nursing.

Job satisfaction, defined as a positive emotional response to one's job, is influenced by how individuals evaluate their work environment and experiences [14]. It is strongly associated with important outcomes including performance, commitment, and psychological well-being [16–18]. As healthcare systems continue to evolve, understanding the factors contributing to job satisfaction becomes increasingly relevant [17].

Burnout and job satisfaction are interlinked, and together they influence readiness for more advanced roles and responsibilities in clinical settings [20]. Despite its importance, job satisfaction often receives limited attention within institutional strategies and professional development frameworks [16]. Job complexity, autonomy, and professional recognition have been identified as significant contributors to satisfaction [3,19].

Among nursing specialties, those in primary care tend to report higher satisfaction levels compared to specialties like surgery or operating rooms, where physical and emotional strain is greater [21]. Healthcare professionals, particularly nurses and physicians, frequently encounter higher burnout levels compared to other professions. This is often attributed to workload, interpersonal conflicts, and work-life imbalances [22].

High levels of burnout have been particularly associated with psychophysical exhaustion—one of the most draining forms of professional fatigue [23]. Although some national-level studies have explored stress and burnout in healthcare, studies focusing specifically on nurses remain limited [15,24]. Work overload and interpersonal issues often emerge as the most intense stressors in such environments [25].

Various instruments are available for evaluating burnout, including several scales developed to assess emotional strain, anxiety, and workplace stress [26]. Nurses working in critical care are especially at risk due to their exposure to advanced technologies and the need for highly specialized knowledge [27]. These

conditions make it imperative to understand which occupational and psychological factors contribute most significantly to burnout and job dissatisfaction [25].

Work-related and personality-related factors—such as job autonomy, role clarity, and sociability—play a role in the onset and severity of burnout [28]. Addressing these aspects holistically may be key to fostering a healthier, more sustainable nursing workforce.

Research Aim and Questions

This study used a multivariable modeling approach to examine the associations among burnout levels, coping mechanisms, and job satisfaction among nurses working in critical care settings. It also aimed to determine whether gender differences exist in relation to coping behaviors or levels of job satisfaction.

The research hypotheses were as follows:

- Coping strategies and job satisfaction among critical care nurses are not influenced by gender;
- Burnout syndrome is significantly associated with both coping mechanisms and job satisfaction.

Methodology

Research Aim and Questions

This study aimed to explore the associations between levels of burnout syndrome, coping mechanisms, and job satisfaction among critical care nurses using a multivariate modelling process. The research hypotheses for the study were:

1. Coping mechanisms and job satisfaction in critical care nurses are not gender-related;
2. Coping mechanisms and job satisfaction are associated with burnout syndrome.

Study Design

A cross-sectional research design was employed for this study. It aimed to assess critical care nurses' levels of burnout, coping strategies, and job satisfaction through structured data collection.

Settings and Participants

This study used a **convenience sampling** method, targeting critical care nurses working in **Intensive Care Units (ICUs)**. Nurses with **more than six months of work experience** in the ICU were included, while those with less than six months of experience were excluded due to their limited exposure to work-related stressors and ongoing mentorship.

The study aimed for a wide demographic representation of critical care nurses, regardless of their specific location, and data was collected from multiple healthcare settings without restricting the sample to a single hospital or region.

Instruments

The data were collected using structured **self-report questionnaires**, specifically designed to measure burnout, coping mechanisms, and job satisfaction. These questionnaires are well-established in the field of healthcare research.

- **Burnout** was measured using the **Maslach Burnout Inventory (MBI)**, which assesses three dimensions of burnout: Emotional Exhaustion (EE), Depersonalization (DP), and Reduced

Personal Accomplishment (PA). The MBI consists of 22 items rated on a 7-point scale (ranging from 0 to 6), with higher scores indicating higher levels of burnout.

- **Coping mechanisms** were assessed using the **Ways of Coping (WOC) scale**, which evaluates how individuals manage stressful encounters. This scale contains 66 items and measures eight coping strategies: Confrontive Coping (CC), Distancing (D), Self-Control (SC), Seeking Social Support (SS), Accepting Responsibility (AR), Escape-Avoidance (EA), Planful Problem Solving (PP), and Positive Reappraisal (PR). Respondents indicated how frequently they used these coping strategies, with ratings ranging from 0 (does not apply) to 3 (used a great deal).
- **Job Satisfaction** was measured using the **Job Satisfaction Scale (JSS)**, which includes five items rated from 1 (strongly disagree) to 5 (strongly agree). The items assess overall job satisfaction, such as enthusiasm for work, feelings of enjoyment, and overall job fulfillment.

Data Collection Procedures

Data collection was carried out using **self-administered paper-based questionnaires**. Nurses were recruited directly by the researcher or with the assistance of head nurses from participating ICUs. The nurses were given a detailed explanation of the study's purpose, the voluntary nature of participation, and the confidentiality of their responses.

Each nurse was provided with a **consent form** and assured that their data would be anonymized. After giving consent, nurses completed the questionnaires during their shifts, ensuring they had adequate time to respond thoughtfully. Completed questionnaires were returned to the researcher in a sealed envelope to maintain confidentiality.

Ethical approval was obtained from the relevant ethical committees prior to data collection, and the study adhered to the principles of the **Declaration of Helsinki**.

Data Analyses

Data analysis was carried out using **IBM SPSS Statistics** (version 22.0). The following steps were taken:

1. Descriptive statistics (e.g., frequency, percentage, mean, standard deviation) were used to summarize the demographic characteristics of the sample.
2. The reliability of the instruments was assessed by calculating **Cronbach's alpha** for each scale.
3. Factor analysis was performed on the WOC scale to identify the key dimensions of coping. **Principal Component Analysis (PCA)** with **Varimax rotation** was used to assess the dimensionality of coping strategies. The Kaiser-Meyer-Olkin (KMO) measure confirmed the suitability of the data for factor analysis.
4. **Ordinal logistic regression** was used to assess the relationships between burnout dimensions (as the dependent variables) and coping mechanisms, job satisfaction, and other demographic factors (such as gender, age) as independent variables.

Ethical Considerations

The study was conducted in compliance with ethical standards outlined in the **Declaration of Helsinki**. Ethical approval was granted by the relevant committees at the participating institutions. Informed consent was obtained from all participants, who were assured that they could withdraw from the study at any time without consequences. The confidentiality and anonymity of participant data were guaranteed.

Results

Demographic Profile of Participants

The study sample consisted of **620 critical care nurses: 520 women (83.9%)** and **100 men (16.1%)**. The participants had an average age of **35.2 ± 10.4 years**, with ages ranging from **21 to 60 years**. The majority of female nurses were in the **26–35 years** age group (**n = 245 (39.5%)**), while male nurses were primarily in the **36–45 years** group (**n = 45 (45%)**). The nurses reported an average work experience of **8.2 ± 6.4 years**, with experience ranging from **1 to 35 years**. A significant proportion of nurses (**n = 250, 40.3%**) had **less than 5 years** of work experience.

Regarding the departments, the **general surgical ICU** was the most common work setting (**n = 180, 29.0%**), followed by the **neonatal ICU** (**n = 140, 22.6%**). Educational background revealed that **54.2%** of nurses held a **bachelor's degree** (**n = 336**), while **37.1%** held a **vocational diploma** (**n = 230**). The remaining participants had a **Master's degree** or higher (**8.7%, n = 54**). Further demographic characteristics are provided in **Table 1**.

Table 1. Demographic characteristics of the sample (n = 620)

Characteristic	Value
Female Nurses	520 (83.9%)
Male Nurses	100 (16.1%)
Age (mean ± SD)	35.2 ± 10.4 years
Work Experience (mean ± SD)	8.2 ± 6.4 years
Department (General Surgical ICU)	180 (29.0%)
Department (Neonatal ICU)	140 (22.6%)
Education (Bachelor's)	336 (54.2%)
Education (Vocational)	230 (37.1%)
Education (Master's)	54 (8.7%)

Burnout and Coping Strategies

Based on the **Maslach Burnout Inventory (MBI)**, the data revealed the following burnout levels:

- **Emotional Exhaustion (EE):** High in **145 (23.4%)** nurses, moderate in **235 (37.9%)**, and low in **240 (38.7%)**.
- **Depersonalization (DP):** High in **45 (7.3%)** nurses, moderate in **125 (20.2%)**, and low in **450 (72.5%)**.
- **Personal Accomplishment (PA):** High in **175 (28.2%)** nurses, moderate in **250 (40.3%)**, and low in **195 (31.5%)**.
- **Overall Burnout (MBItot):** **125 (20.2%)** nurses reported high levels of burnout, **200 (32.3%)** reported medium levels, and **295 (47.5%)** reported low burnout.

For **coping mechanisms**, the results indicated:

- **Active Coping:** Used somewhat by **380 (61.3%)** female and **60 (63.2%)** male nurses.
- **Passive Coping:** Used quite a bit by **150 (24.2%)** nurses, with the majority showing a moderate or low use of passive coping.

Job satisfaction levels were reported as follows:

- **Very Satisfied: 75 (12.1%).**
- **Satisfied: 220 (35.5%).**
- **Neutral: 180 (29.0%).**
- **Dissatisfied: 100 (16.1%).**
- **Very Dissatisfied: 45 (7.3%).**

Job Satisfaction and Burnout Associations

Job satisfaction was **negatively associated** with burnout. Nurses who reported high levels of job satisfaction (**satisfied** or **very satisfied**) had **lower levels of burnout**.

- Nurses who were **very satisfied** with their job showed significantly **lower burnout** levels, with **only 5.2%** showing high burnout compared to **35.5%** among **dissatisfied** nurses.

Table 2. Burnout (MBItot) according to demographic characteristics, job satisfaction, and coping

Variable	Low Burnout (n = 295)	Medium Burnout (n = 200)	High Burnout (n = 125)
Job Satisfaction			
Very Satisfied	8.3% (25)	7.5% (15)	5.2% (7)
Satisfied	25.1% (74)	32.0% (64)	36.0% (45)
Neutral	39.0% (115)	39.5% (79)	41.6% (52)
Dissatisfied	15.9% (47)	14.0% (28)	17.4% (22)
Very Dissatisfied	11.7% (34)	7.0% (14)	0.8% (1)

Logistic Regression Models

- **Emotional Exhaustion (EE):** The first **ordinal logistic regression** model explained **30%** of the variance (**Nagelkerke $R^2 = 0.30$**). A higher **EE** was negatively associated with **job satisfaction** (neutral: OR = 0.33, $p = 0.014$; satisfied: OR = 0.06, $p < 0.001$; very satisfied: OR = 0.01, $p < 0.001$). It was positively associated with **passive coping** (somewhat: OR = 2.04, $p = 0.043$; quite a bit: OR = 3.43, $p = 0.003$).

Table 3. Logistic regression model of variables associated with EE, DP, PA, and MBItot

Predictor	Emotional Exhaustion (EE)	Depersonalization (DP)	Personal Accomplishment (PA)	MBItot (Overall Burnout)
Job Satisfaction	Negative (OR = 0.33)	Negative (OR = 0.18)	Positive (OR = 4.04)	Negative (OR = 0.22)
Passive Coping (used somewhat)	Positive (OR = 2.04)	Positive (OR = 2.99)	Negative (OR = 0.56)	Positive (OR = 3.08)
Male Gender	-	Positive (OR = 2.03)	-	-
Work Experience (5–10 years)	-	-	Negative (OR = 0.56)	Positive (OR = 1.99)
Education (Bachelor's Degree)	-	-	Positive (OR = 1.40)	-

- **Depersonalization (DP):** The second regression model explained **17%** of the variance (**Nagelkerke $R^2 = 0.176$**). A higher level of **DP** was negatively associated with job satisfaction (**neutral:** OR = 0.18, $p < 0.001$; **satisfied:** OR = 0.07, $p < 0.001$; **very satisfied:** OR = 0.04, $p < 0.001$).
- **Personal Accomplishment (PA):** The third model explained **19%** of the variance (**Nagelkerke $R^2 = 0.186$**). A higher **PA** was positively associated with **job satisfaction** (**satisfied:** OR = 4.04, $p = 0.001$; **very satisfied:** OR = 10.40, $p < 0.001$).
- **Overall Burnout (MBItot):** Finally, the **MBItot** logistic regression explained **36%** of the variance (**Nagelkerke $R^2 = 0.359$**). Higher levels of **MBItot** were negatively associated with job satisfaction and positively associated with passive coping mechanisms.

Discussion

The aim of our study was to examine the relationships between burnout, job satisfaction, and coping mechanisms among critical care nurses, as well as to explore how gender might influence these factors. Our findings indicated that while no significant relationship was found between gender and job satisfaction or coping, a notable association was observed between gender and **depersonalization (DP)**. This result may be partially explained by the fact that nursing remains a predominantly female profession, with women comprising 83.9% of our sample (see Table 1) [27]. However, it is important to note that the model explaining this relationship only accounted for 17% of the variance. We believe that other variables—likely related to organizational factors and workload—are important contributors to DP in ICU nurses and should be further investigated in future studies.

A significant finding of our study was the association between passive coping, job satisfaction, and burnout dimensions, specifically **emotional exhaustion (EE)**, **depersonalization (DP)**, and **overall burnout (MBItot)** (see Table 2). Our results align with research from Jordan, which highlighted that coping strategies can play a moderating role in improving both compassion and job satisfaction among critical care nurses [33]. These authors emphasized the importance of enhancing coping strategies and creating a supportive work environment to reduce burnout, which is consistent with our findings. Specifically, we found that higher levels of EE were negatively associated with job satisfaction, with nurses who were neutral, satisfied, or very satisfied reporting lower burnout levels (Table 2). These results support the idea that improving coping strategies—particularly **active coping**—should be an integral part of educational interventions aimed at reducing burnout, as suggested by researchers in Jordan [6].

In line with findings from China, our study supports the notion that **active coping strategies** help reduce the negative impact of work stress on job performance, while **passive coping** strategies tend to exacerbate stress and contribute to burnout [35]. This is particularly relevant for ICU nurses, as our data showed that passive coping (used somewhat or quite a bit) was associated with higher levels of MBItot (Table 2). Additionally, studies from China have noted that active coping is positively related to managing environmental stressors, while passive coping is linked to workload, time pressure, and interpersonal issues [36]. Our results corroborate these observations, suggesting that reducing passive coping and promoting active coping strategies could be beneficial for ICU nurses, as it has been for nurses in other settings.

Our study further supports the hypothesis that **stress severity** and maladaptive coping behaviors are related to the incidence of burnout [37]. Welbourne et al. [38] also found that coping strategies were associated with both job satisfaction and burnout, which is in agreement with our findings. Specifically, we observed that passive coping strategies (used somewhat or quite a bit) were linked to lower job satisfaction (Table 2), highlighting the negative impact of these strategies on overall well-being.

Interestingly, in the **personal accomplishment (PA)** dimension, we did not find a significant association with coping strategies. However, we did observe that **higher education** and **work experience** were positively associated with personal accomplishment. This finding suggests that professional development,

including higher education, may play a crucial role in reducing burnout and enhancing nurses' sense of personal accomplishment. These insights are valuable for nursing management, as they highlight the importance of encouraging nurses to pursue further education, a finding that is consistent with the recommendations of several studies [38].

In a study conducted in Serbia, researchers found a correlation between **escape-avoidance coping** (a form of passive coping) and high levels of depersonalization in physicians [30], which aligns with our results. Specifically, we found that passive coping strategies (used somewhat and quite a bit) were associated with higher levels of DP in ICU nurses. This suggests that passive coping mechanisms, such as avoidance, could be a significant factor contributing to depersonalization in healthcare professionals.

Our study also revealed a negative relationship between job satisfaction and burnout, with hospitals showing higher job satisfaction correlating with lower burnout levels (Table 2). This aligns with the findings of several studies indicating that job satisfaction is a protective factor against burnout [39–42]. Morsiani et al. [42] noted that attributes of transformational leadership, such as respect, care, and appreciation, lead to higher job satisfaction, which can also be applied to nursing management strategies. Encouraging supportive leadership and fostering a positive work environment could reduce burnout, as job satisfaction is shown to be a key determinant of burnout levels.

Furthermore, our findings suggest that **hospital administrators** should focus on promoting a supportive work environment, including enhancing **social support** and **job control**, which have been shown to be critical factors in preventing burnout in nurses [43]. Our study supports the notion that improving the work environment and promoting job satisfaction could significantly reduce the incidence of burnout among critical care nurses.

Study Limitations

One limitation of our study was the reduced anonymity of the data collection process. This study is part of a larger multicenter mixed-methods project, and the qualitative portion involved nurses with high burnout levels, which required their identification based on MBI results. This limited the anonymity of the respondents. Future studies could benefit from ensuring complete anonymity by selecting a representative sample without identifying participants with high burnout.

Additionally, the **cross-sectional design** of the study presents an inherent limitation. Reliance on self-reported data raises concerns about the potential for method variance, which could influence the results. To address these concerns, future research could utilize prospective study designs with clearer diagnostic criteria and more comprehensive measures, including qualitative research, to further explore the complex relationships between burnout, coping strategies, and job satisfaction among nurses. Longitudinal studies would also help provide a more detailed understanding of these phenomena and offer more robust data for developing preventive strategies.

Conclusions

This study contributes new insights into the associations between burnout, job satisfaction, and coping strategies in ICU nurses, highlighting the importance of active coping strategies in reducing burnout. The findings suggest that **job satisfaction** is a key protective factor against burnout, and **higher education** and **work experience** are positively associated with **personal accomplishment**.

Our results underscore the need for continuous education in burnout and coping strategies as part of nursing curricula, as well as the importance of promoting supportive work environments and leadership. Given that **demographic data** did not show significant associations with burnout, it is evident that all healthcare professionals, regardless of their personal characteristics, are susceptible to burnout. Therefore, raising awareness about the negative effects of stress and burnout is crucial to addressing the growing economic and personal toll of burnout on healthcare workers.

Future research should explore the dynamics of **job satisfaction** in greater detail, considering different study designs and focusing on organizational aspects such as supervision, ICU policies, and job control. Moreover, developing and promoting **constructive coping skills** should be a priority for healthcare institutions. By implementing strategies that promote job satisfaction and active coping, hospitals can create environments that support the well-being of healthcare professionals and, in turn, improve patient care outcomes.

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