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Relative contributions of burnout dimensions to intention to leave among healthcare professionals in Serbia

Relativni doprinos dimenzija profesionalnog sagorevanja objašnjenju namere napuštanja posla među zdravstvenim radnicima u Srbiji

Marko Slavković[a*], Jelena Đaković[b]

[a] University of Kragujevac, Faculty of Economics, Serbia
[b] University of Kragujevac, Faculty of Medical Science, Serbia

Article info

Review paper

Received:
28 May, 2026
Revised:
5 November, 2026
Accepted:
18 November, 2026
Published online: 21 November, 2026

DOI:
https://doi.org/10.71159/bizinfo260030S

UDC/ UDK:

Abstract

Retaining healthcare workers poses a significant challenge for healthcare organizations, making it important to identify which dimensions of burnout are most strongly associated with intention to leave. This study aimed to examine the combined and individual predictive contributions of three dimensions of burnout-personal burnout, work-related burnout, and patient-related burnout, while controlling for employees' gender and age. The study was conducted in July and August 2026 among a sample of 312 healthcare workers in Serbia. Data were collected using the Copenhagen Burnout Inventory (CBI) and the intention-to-leave scale from the Michigan Organizational Assessment Questionnaire (MOAQ). Statistical analyses included descriptive statistics, correlation analysis, and hierarchical multiple linear regression using robust standard errors. The results showed that the three burnout dimensions jointly explained an additional 58.8 percentage points of the variance in intention to leave, bringing the total proportion of explained variance to 63.6%. Patient-related burnout emerged as the strongest and the only statistically significant independent predictor. These findings indicate the need to pay particular attention to burnout associated with direct patient care when developing strategies to retain healthcare workers.

Keywords: *burnout, intention to leave the job, healthcare workers, patient-related burnout, employee retention*

Sažetak

Zadržavanje zdravstvenih radnika predstavlja značajan izazov za zdravstvene organizacije, zbog čega je važno utvrditi koji su oblici profesionalnog sagorevanja najviše povezani sa namerom napuštanja posla. Cilj istraživanja bio je da se ispita zajednički i pojedinačni prediktivni doprinos tri dimenzije profesionalnog sagorevanja: ličnog sagorevanja, sagorevanja povezanog sa poslom i sagorevanja povezanog sa radom sa pacijentima, uz kontrolu pola i starosti zaposlenih. Istraživanje je sprovedeno tokom jula i avgusta 2026. godine na uzorku od 312 zdravstvenih radnika u Srbiji. Podaci su prikupljeni primenom Kopenhaškog upitnika profesionalnog sagorevanja (CBI) i skale namere napuštanja posla iz Mičigenskog upitnika za organizacionu procenu (MOAQ). Statistička obrada obuhvatila je deskriptivnu i korelacionu analizu, kao i hijerarhijsku višestruku linearnu regresiju uz primenu robusnih standardnih grešaka. Rezultati pokazuju da tri dimenzije sagorevanja zajedno objašnjavaju dodatnih 58,8 procentnih poena varijanse namere napuštanja posla, dok ukupan udeo objašnjene varijanse iznosi 63,6%. Sagorevanje povezano sa neposrednim radom sa pacijentima izdvojilo se kao najsnažniji i jedini statistički značajan nezavisni prediktor. Rezultat ukazuju na potrebu da se prilikom oblikovanja strategija zadržavanja zdravstvenih radnika posebna pažnja posveti iscrpljenosti povezanoj sa neposrednim radom sa pacijentima.

Ključne reči: profesionalno sagorevanje, namera napuštanja posla, zdravstveni radnici, iscrpljenost povezana sa pacijentima, zadržavanje zaposlenih

*Corresponding author
E-mail address: mslavkovic@kg.ac.rs

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1. Introduction

The healthcare sectors of many countries worldwide face an increasing need to adapt to numerous contemporary challenges, particularly rising patient numbers, ongoing changes, and growing demands to maximize the quality of healthcare (Khatatbeh et al., 2021). A major challenge facing the healthcare sector globally is the declining number of healthcare professionals, with the World Health Organization projecting a shortage of 14 million healthcare workers until 2030, particularly in Europe (de Vries et al., 2023; Maniscalco et al., 2024). Therefore, alongside the development of new healthcare professionals, there is a need to retain the existing workforce, making healthcare worker retention a central concern for human resource management and managers of healthcare organizations. However, retaining healthcare professionals remains particularly challenging. Faced with the numerous challenges confronting healthcare organizations, healthcare professionals are increasingly less inclined to remain loyal to their organizations. Heavy workloads, overtime, growing demands for quality, and poor work-life balance are among the factors that contribute to negative attitudes among healthcare workers and encourage them to leave their organizations (Kwon et al., 2021; Stankovic & Slavkovic, 2025). One consequence of these factors is burnout, characterized by physical and emotional exhaustion resulting from excessive exposure to specific job demands and working conditions, which is reported to affect one in ten healthcare workers (Montgomery et al., 2021). As such, burnout is one of the factors that can lead employees to reduce their work effort and experience lower job satisfaction, ultimately contributing to their intention to leave the organization (Stankovic & Slavkovic, 2025; Tripkovic et al., 2021). This process is further influenced by symptoms associated with burnout, including depersonalization, emotional exhaustion, an inability to achieve goals, fatigue, and job dissatisfaction (de Vries et al., 2024).

Numerous instruments are used to measure burnout in the workplace (Berat et al., 2016). One of the most widely used instruments is the Maslach Burnout Inventory (MBI), which assesses burnout through three dimensions: emotional exhaustion, depersonalization, and personal accomplishment. The first refers to emotional and physical responses to stress, the second to a negative and detached attitude towards work, and the third to a perceived lack of competence in achieving results (Montgomery et al., 2021). However, the MBI has certain conceptual and methodological limitations, including its original focus on professions involving direct interaction with people, the separate measurement of three burnout dimensions despite their belonging to a single construct, and the integration of different aspects of burnout encompassing individual states, coping strategies, and the consequences of occupational demands (Kristensen et al., 2005). Montgomery et al. (2021) further argue that personal accomplishment should not be considered a component of the burnout construct. In response to these limitations, the Copenhagen Burnout Inventory (CBI) was developed. Unlike the MBI, the CBI enables a more precise assessment of occupational burnout by placing exhaustion at the core of the construct and distinguishing general physical and psychological exhaustion from exhaustion associated with work responsibilities and direct patient care. This distinction allows for a clearer identification of different sources of burnout and their individual contributions to the outcomes under investigation (Kristensen et al., 2005). Like the MBI, the CBI also distinguishes three dimensions. The first, personal burnout, refers to the degree of physical and emotional exhaustion experienced by an employee. The second, work-related burnout, reflects the degree of physical and psychological fatigue resulting from the work performed by the employee. Finally, the third dimension, client-related burnout, refers to physical and psychological fatigue arising from work and interactions with clients (Alhenaidi et al., 2023).

The CBI has been validated in various studies examining burnout among healthcare professionals (Barton et al., 2022; Khatatbeh et al., 2020; Fadare et al., 2021). Distinguishing between the three dimensions of burnout is particularly important when investigating employees' intention to leave their jobs, as it allows researchers to examine not only the relationships among these dimensions but also the relative contribution of each dimension to explaining this intention. In Serbia, previous research has examined intention to leave among healthcare workers (Tripković et al., 2021), while the psychometric properties and structural validity of the Serbian version of the CBI have also been empirically confirmed (Živanović et al., 2021). Against this background, further investigation is needed to determine the extent to which personal burnout, work-related burnout, and client-related burnout jointly contribute to explaining intention to leave, while controlling for additional factors. In particular, McGrory et al. (2024), de Vries et al. (2024), and Ligibel et al. (2023) emphasize the importance of incorporating sociodemographic factors into the research model. Accordingly, this study aims to determine whether the three dimensions of burnout make a statistically significant contribution to explaining intention to leave and to identify which dimension has the strongest independent predictive contribution after controlling for gender and age. Bearing in mind the subject and character of the study conducted in healthcare organizations, the paper uses the term patient-related burnout, which more accurately reflects the nature of the relationship between healthcare professionals and patients, instead of the original name client-related burnout used in the original version of the CBI instrument (Kristensen et al., 2005).

2. Literature review

2.1. Burnout and its dimensions

The concept of burnout was initially associated with professions involving intensive interpersonal contact. However, it is now widely recognized that burnout occurs across almost all professions (Jelić & Popov, 2024). The specific nature of healthcare work and the changes affecting healthcare organizations make healthcare workers particularly susceptible to burnout (De Hert, 2020). The global scope of burnout has led the World Health Organization to classify it in ICD-11 as an occupational phenomenon resulting from prolonged exposure to workplace stress (Živanović et al., 2021). Chronic exposure to stress leads to an accumulation of negative emotions,

resulting in emotional exhaustion, negative attitudes towards work, and various other emotional and psychological changes (Gabriel & Aguinis, 2022). Maslach et al. (2001) identify exhaustion as the central characteristic of burnout, emerging as the first manifestation of stress and subsequently contributing to detachment from work tasks and other negative attitudes towards work, including a diminished sense of accomplishment. As Adamopoulos & Syrou (2023) point out, exhaustion is both physical and mental, leaving employees unable to perform their work productively.

Given its prevalence and extent across different professions, various instruments have been developed to measure burnout. One such instrument is the previously mentioned CBI, which distinguishes general physical and psychological exhaustion from exhaustion associated with work responsibilities and direct patient care. As noted earlier, the CBI comprises three distinct dimensions. The first, personal burnout, refers to an individual's level of psychological and physical exhaustion (Kristensen et al., 2005). The second, work-related burnout, refers to the mental and psychological exhaustion employees experience as a result of performing their work duties (Alhenaidi et al., 2023). Personal burnout differs from work-related burnout in that it encompasses a general sense of fatigue and exhaustion that individuals do not necessarily attribute to their work responsibilities (Simonović et al., 2023). Personal burnout may also arise from poor relationships with colleagues, working conditions, reward systems, poor work-life balance, and similar factors (De Hert, 2020; Gabriel & Aguinis, 2022; Mladenović & Krstić, 2021). Patient-related burnout, originally defined as the degree of physical and psychological fatigue experienced as a result of working with clients (Kristensen et al., 2005; Živanović et al., 2021), can similarly be understood as the degree of physical and psychological fatigue resulting from interactions with patients. Although the three CBI dimensions differ conceptually in terms of the sources to which individuals attribute their exhaustion, they are interrelated, as exhaustion arising from work responsibilities and direct patient contact may also be associated with a general sense of physical and psychological fatigue. In other words, different sources of exhaustion do not necessarily operate independently but may overlap. However, the relationships among these dimensions do not necessarily imply that they are equally important in explaining intention to leave. It is therefore important to examine the independent predictive contribution of each dimension when all three are included simultaneously in the research model.

Healthcare workers, particularly nurses, are highly susceptible to burnout (Kwon et al., 2021). de Vries et al. (2023) report that nurses accounted for as many as 78.4% of all healthcare workers who experienced burnout in their study. Matthews et al. (2024) examined burnout among 326 midwives, assessing all three dimensions of the CBI. Their findings showed that 65% of midwives experienced personal burnout, 47% experienced work-related burnout, and 8% experienced patient-related burnout. Contributing factors included an inability to take breaks, insufficient recognition for work performed, inadequate managerial support, and negative perceptions of managers' attitudes towards employees in their daily work. Similarly, Sartori et al. (2025) found that healthcare workers experienced the highest levels of personal burnout, followed by work-related burnout, while patient-related burnout was the least pronounced.

Although healthcare workers may demonstrate a strong commitment to their profession and maintain positive attitudes towards their work, they face numerous organizational and professional challenges on a daily basis that can contribute to exhaustion. These include healthcare staff shortages, the reassignment of employees to maintain the functioning of different units, limited hospital capacity, the treatment of patients with more severe clinical conditions, and shortages of appropriate personal protective equipment. Managers of healthcare organizations face additional pressures, as they are expected to ensure continuity of operations under such circumstances, provide support to employees, and prevent them from leaving the organization. These responsibilities may also increase their risk of burnout (Montgomery & Patrician, 2022; Matthews et al., 2024; de Vries, 2023). In Serbia, these factors are associated with overtime work, poor work-life balance, fatigue, frustration, and accompanying negative psychological states resembling depression and anxiety (Marković et al., 2024; Simonović et al., 2023).

However, sociodemographic factors that may influence burnout among healthcare workers and the extent to which they experience it should not be overlooked. Employee age has been identified in previous research as one of the factors associated with intention to leave the healthcare profession. Younger healthcare workers and those at the beginning of their professional careers represent a particularly vulnerable group, among whom intention to leave is often associated with high levels of occupational stress and an insufficiently developed sense of professional identity. In addition to age and professional experience, working conditions, job satisfaction, work-life balance, workload, and employees' perceived control over their work responsibilities also play a significant role (McGrory et al., 2024). de Vries et al. (2024) report that women are more susceptible to burnout. One possible explanation lies in the numerous responsibility's women are expected to fulfil, as they often have to manage everyday family obligations alongside their professional duties.

2.2. Intention to leave

Intention to leave refers to an employee's subjective assessment of the likelihood of leaving their current organization or profession within a specified period (Tripkovic et al., 2021). This assessment is accompanied by recurring thoughts about leaving the organization, strong feelings about resigning, and active efforts to find alternative employment (Minamizono et al., 2019). When defining intention to leave, it is important to distinguish between an employee's intention to leave the organization, which does not necessarily result in departure, and actual employee turnover, which refers to the employee's actual departure from the organization (Ki & Choi-Kwon, 2022). Nevertheless, these two concepts are closely related, as intention to leave is a complex phenomenon involving several stages through which employees may progress before ultimately leaving the organization (de Vries et al., 2023). The process of leaving an organization typically begins with

dissatisfaction with the current job and consideration of the possibility of leaving. After weighing the advantages and disadvantages of such a decision and evaluating available employment alternatives, the initial intention may develop into an actual departure from the organization (Tripkovic et al., 2021). Human resource managers can interrupt this process by recognizing changes in employee behavior and the underlying factors at an early stage. Numerous factors contribute to this process, including work-related factors (stress, working hours, workload, and relationships with patients) and personal characteristics (gender, age, and marital status), among others (Minamizono et al., 2019). Intention to leave is further reinforced by poor work-life balance, excessive span of control, inadequate reward systems, insufficient recognition of work performed, and sociodemographic variables such as gender and age (Dousin et al., 2021; den Bulckie et al., 2020; McGrory et al., 2024; Enea et al., 2024; Tripkovic et al., 2021). The consequences of this phenomenon are negative, primarily reflected in reduced performance and the potential for actual employee departure, which creates staffing shortages and requires additional time and financial resources to address them (Minamizono et al., 2019). At the same time, intention to leave contributes to reduced employee engagement and individual productivity, ultimately leading to a decline in the quality of healthcare (Stankovic & Slavkovic, 2025).

Healthcare workers' intention to leave their jobs represents a significant organizational challenge, as its eventual realization may further reduce available staffing levels and increase the workload of remaining employees. This, in turn, may contribute to a range of adverse events during hospitalization, including medication errors, failure to provide necessary care, prolonged hospital stays, reduced patient satisfaction, and an increased risk of death (Ooijen et al., 2023). These consequences also affect healthcare workers themselves, as increased workloads may be accompanied by higher levels of occupational burnout, job dissatisfaction, and a stronger intention to leave the organization.

2.3. Burnout dimensions and intention to leave

Depersonalization, detachment from work, emotional exhaustion, a diminished sense of personal accomplishment, and other symptoms associated with burnout contribute to intention to leave (de Vries et al., 2024). Across medical specialties, this phenomenon is most prevalent among anesthesiologists, followed by gastroenterologists, surgeons, neurologists, radiologists, geneticists, otolaryngologists, and other medical professionals (Ligibel et al., 2023). Matthews et al. (2024) concluded that intention to leave contributes to work-related burnout. In a study involving midwives, Sartori et al. (2025) found that high levels of stress are associated with declining healthcare quality resulting from staff shortages and heavy workloads, as well as the demanding and highly stressful circumstances faced by healthcare professionals. Managers of healthcare organizations also experience high levels of burnout and intention to leave, as they must address these challenges while simultaneously ensuring the achievement of organizational goals (Montgomery & Patrician, 2022).

Given the relationship between burnout and intention to leave, it is particularly important to examine how different dimensions of burnout have been measured in previous research and how their individual and joint contributions to explaining intention to leave have been assessed. In a research model examining this relationship, Rotenstein et al. (2023) used the MBI to measure burnout, while intention to leave was assessed using a single statement concerning the intention to leave the job within the next two years. Faria & Porto (2026) measured burnout using the CBI, while intention to leave was assessed using the Turnover Intention Scale (TIS). Their research model also included decent work and career calling, with gender, sector, and professional field serving as control variables. de Vries et al. (2023) identified several burnout-related factors whose effects on intention to leave were examined, including emotional exhaustion, depersonalization, high workload, and stress. In examining the relationship between burnout and intention to leave, Christianson et al. (2023) focused on a single dimension of burnout, namely work-related burnout. Jelić & Popov (2024), on the other hand, investigated the effects of physical exhaustion and psychological exhaustion on intention to leave. Matthews et al. (2024) conducted a study in the Australian healthcare sector involving a sample of 326 midwives. The relationship between burnout and intention to leave was examined using the CBI. The results showed that personal burnout had the strongest association with intention to leave, followed by work-related burnout, while patient-related burnout had the weakest association. However, although personal burnout showed the strongest association in the univariate analyses, only work-related burnout retained a statistically significant association with intention to leave among the three CBI dimensions in the final multivariate model.

Similar findings were reported by Sartori et al. (2025), who also included caseload and hospital-based practices in their research model. Montgomery & Patrician (2022) also examined all three dimensions of the CBI but limited their statistical analysis to correlation analysis. Their findings indicated moderate correlations between all three burnout dimensions and intention to leave, although their research model included a substantial number of additional variables that influenced the observed correlation coefficients. In a study conducted in Japan involving a sample of 328 nurses, Minamizono et al. (2019) used multivariable logistic regression and found that all three CBI dimensions had a statistically significant effect on intention to leave, with these effects becoming stronger when age and gender were included as control variables. Kwon et al. (2021) also examined the effects of all three CBI dimensions, measuring intention to leave using the Korean Nurse Turnover Intention Scale (K-NTIS) and incorporating emotional labor and medical errors into their research model. McGrory et al. (2024) measured the CBI dimensions on a scale ranging from 0 to 100, with higher scores indicating higher levels of burnout. The authors used the Work-Related Quality of Life (WRQoL) scale to assess work-related quality of life and asked respondents separately about their intention to leave the profession. The CBI dimensions were validated in Serbia by Živanović et al. (2021), although their study involved social workers. In contrast, Simonović et al. (2025) applied

the CBI in the Serbian healthcare sector, focusing primarily on personal burnout and work-related burnout.

A review of previous research reveals differences in the approaches used to examine the relationships between individual dimensions of burnout and intention to leave, both in the statistical methods applied and in the structure of the research models. Some authors examined each CBI dimension in separate regression models (Minamizono et al., 2019; Kwon et al., 2021), while others sought to establish their independent predictive contributions by including multiple dimensions simultaneously in a single model (Matthews et al., 2024; McGrory et al., 2024). These findings indicate that an association between a particular burnout dimension and intention to leave does not necessarily imply an independent predictive contribution when the other dimensions are considered simultaneously. Although previous studies provide substantial evidence of the relationship between burnout and intention to leave across different healthcare systems, there is still no consensus on which of the three CBI dimensions makes the strongest independent predictive contribution. Furthermore, studies examining all three burnout dimensions within a single hierarchical regression model, while controlling for relevant employee demographic characteristics, remain limited in the Serbian healthcare sector. Accordingly, the present study seeks to extend existing knowledge by examining the relative contributions of personal burnout, work-related burnout, and patient-related burnout to explaining intention to leave among healthcare professionals in Serbia, after controlling for gender and age. Based on the research problem outlined above, the following research questions were formulated:

RQ1. Do the three dimensions of burnout (personal burnout, work-related burnout, and patient-related burnout) make a statistically significant contribution to explaining intention to leave after controlling for gender and age?

RQ2. Which of the three burnout dimensions has the strongest independent predictive contribution to explaining intention to leave after controlling for gender and age?

3. Materials and methods

3.1. Participants and procedures

The study involved healthcare workers from the Republic of Serbia. Data collection was conducted during July and August 2026, resulting in a total sample of 312 respondents. The research was conducted in accordance with the ethical principles of the Declaration of Helsinki, particularly those concerning the protection of participants' rights, dignity, and privacy. Prior to data collection, approval was obtained from the management of the healthcare organizations in which the research was conducted. The introductory page of the questionnaire informed respondents about the aims and scientific purpose of the study, as well as the conditions of their participation. It was explicitly stated that participation was voluntary and anonymous and that respondents could independently decide whether to complete the questionnaire, without pressure or any consequences for declining to participate. The collected data were used exclusively for scientific research purposes, while respondents' demographic characteristics were analyzed at the aggregate level to ensure the confidentiality of the information obtained. The questionnaire did not collect any information that could directly identify individual participants, and respondents were given the opportunity to request additional information about the study before completing it. The structure of the research sample according to selected sociodemographic characteristics is presented in Table 1.

Table 1. Respondents' characteristics

Category	Frequency	%
Gender		
Female	235	75.3
Male	77	24.7
Age		
≤30	50	16.0
31-40	107	34.3
41-50	101	32.4
≥51	54	17.3
Years within healthcare organization		
≤5	30	9.6
6-10	69	22.1
11-15	81	26.0
16-20	45	14.4
≥21	87	27.9
Employment type		
Temporary	43	13.8
Full-time	269	86.2

Notes: N = 312. Percentages are calculated among valid responses. Only sample characteristics relevant for reporting this study are shown

Source: Authors

The results presented in Table 1 indicate that the sample predominantly consists of female respondents aged 31-40 years, with 21 years or more of employment in a healthcare organization and full-time employment contracts.

3.2. Measurements

Primary data were collected using a structured questionnaire consisting of three sections. The first section contained statements measuring burnout, the second assessed intention to leave, and the third collected information on respondents' sociodemographic characteristics. Burnout was measured using the original version of the Copenhagen Burnout Inventory (CBI), which comprises 19 items distributed across three dimensions: personal burnout (6 items), work-related burnout (7 items), and patient-related burnout (6 items). Given the subject and nature of the study, which was conducted in healthcare organizations, the term patient-related burnout was used instead of client-related burnout, as employed in the original CBI (Kristensen et al., 2005). This terminology more accurately reflects the nature of interactions between healthcare professionals and patients, without altering the meaning or content of this burnout dimension. For each CBI item, respondents selected one of the five response options specified in the original instrument. Depending on the item, these options assessed frequency or intensity (Kristensen et al., 2005). In this study, responses were coded on a 1–5 scale, and the positively worded work-related burnout item (OP13) was reverse-scored before calculating the subscale scores. Each subscale score was calculated as the mean of its items, with higher scores indicating greater burnout.

Intention to leave was assessed using a scale from the Michigan Organizational Assessment Questionnaire

(MOAQ), developed by Cammann et al. (1983). This construct was measured using three items (OK1–OK3), and its score was calculated as the arithmetic mean of the responses, with higher scores indicating a stronger intention to leave. In addition to these constructs, respondents' gender and age were included in the research model as control variables. Gender was represented by a binary dummy variable, with women serving as the reference category. Age was treated as a categorical variable and represented by three dummy variables, with respondents under 30 years of age serving as the reference group.

3.3. Data analysis

Statistical analysis began with an assessment of the internal consistency of the four composite scales using Cronbach's alpha coefficient. Descriptive analysis was then performed, including the calculation of arithmetic means and standard deviations, while Pearson's correlation coefficient was used to assess the strength and direction of the relationships between the constructs examined. To address the research questions, hierarchical multiple linear regression analysis was conducted using two sequentially specified models. The first model included the control variables, namely respondents' gender and age, while the second model additionally incorporated three burnout dimensions: personal burnout, work-related burnout, and patient-related burnout. The contribution of the burnout dimensions to explaining intention to leave was assessed using the change in the coefficient of determination (ΔR^2) and the corresponding F-test for the change in R^2. Standardized regression coefficients (β) were examined to determine the relative independent predictive contribution of each dimension. To assess the assumptions of regression analysis, multicollinearity among the predictor variables was examined using the variance inflation factor (VIF), with particular attention to the relationship between work-related burnout and patient-related burnout. The homogeneity of residual variance was assessed using the Breusch–Pagan test, which yielded a statistically significant result ($p = 0.036$), indicating the presence of heteroskedasticity. Accordingly, the statistical significance of individual regression coefficients was evaluated using HC3 robust standard errors, along with the corresponding p-values and confidence intervals. The significance level for all analyses was set at $p < 0.05$.

Table 2. Reliability and descriptive statistics of the study constructs

Construct	Items	k	M	SD	Cronbach alpha
Personal burnout	OP1–OP6	6	3,314	0.740	0.902
Work-related burnout	OP7–OP13	7	2,923	0.976	0.901
Patient-related burnout	OP14–OP19	6	2,468	1,183	0.939
Intention to leave	OK1–OK3	3	2,924	0.899	0.738

Notes: N = 312. Composite scores are arithmetic means of the corresponding items

Source: Authors

The results of the internal consistency analysis presented in Table 2 indicate satisfactory reliability across all scales used in the study. Particularly high Cronbach's alpha coefficients were obtained for all three dimensions of the CBI: personal burnout ($\alpha = 0.902$), work-related burnout ($\alpha = 0.901$), and patient-related burnout ($\alpha = 0.939$), indicating very high internal consistency. The intention-to-leave scale, on the other hand, demonstrated an acceptable level of reliability ($\alpha = 0.738$). These findings confirm that all four composite scales exhibit adequate internal consistency for subsequent statistical analyses.

4. Research results

In the first stage of the statistical analysis, Pearson's correlation coefficients were calculated, and the results are presented in Table 3.

Table 3. Pearson correlations among the study constructs

Construct	1	2	3	4
1 Personal burnout	1			
2 Work-related burnout	0.624***	1		
3 Patient-related burnout	0.467***	0.870***	1	
4 Intention to leave	0.417***	0.726***	0.792***	1

Notes: N = 312. *** $p < 0.001$

Source: Authors

The results of Pearson's correlation analysis, presented in Table 3, indicate that all three dimensions of occupational burnout are positively and statistically significantly associated with intention to leave. The strongest correlation was observed between patient-related burnout and intention to leave ($r = 0.792$), followed by work-related burnout ($r = 0.726$), while personal burnout showed a moderate positive correlation with intention to leave ($r = 0.417$). Regarding the interrelationships among the burnout dimensions, the particularly strong correlation between work-related burnout and patient-related burnout ($r = 0.870$) indicates substantial overlap between these constructs and the potential for multicollinearity in the regression model. This finding highlights the importance of distinguishing bivariate associations from the independent predictive contributions of individual dimensions, as the strong correlation between work-related burnout and intention to leave does not necessarily indicate a statistically significant independent contribution when patient-related burnout is included in the same regression model.

Table 4. Hierarchical regression model summary

Model	Predictors	R^2	Adj. R^2	ΔR^2	F	p	ΔF
Model 1	Gender + Age	0.048	0.035	–	3,840	0.005	–
Model 2	Gender + Age + PB + WB + PRB	0.636	0.628	0.588	75.909	<0.001	163.853***

Notes: N = 312. Model 1 includes gender and three age-group dummy variables. Model 2 adds personal, work-related, and patient-related burnout. For the burnout block, $\Delta F(3, 304) = 163.853$, $p < 0.001$; HC3 robust joint $F(3, 304) = 159.499$, $p < 0.001$. *** $p < 0.001$

Source: Authors

The results of the hierarchical multiple linear regression analysis, presented in Table 4, indicate that the burnout dimensions make a significant predictive contribution to explaining intention to leave. The first regression model, which included respondents' gender and age, explained 4.8% of the variance in intention to leave ($R^2 = 0.048$; $F = 3.840$; $p = 0.005$). After the three burnout dimensions were added in the second model, the proportion of explained variance increased to 63.6% ($R^2 = 0.636$; adjusted $R^2 = 0.628$), representing an additional 58.8 percentage points ($\Delta R^2 = 0.588$). The statistical significance of this increase was confirmed by the F-test for the change in R^2 ($\Delta F = 163.853$; $p < 0.001$), while the joint contribution of the burnout dimensions remained statistically significant following the application of HC3 robust standard errors. These findings demonstrate that personal burnout, work-related burnout, and patient-related burnout jointly make a significant additional predictive contribution to explaining intention to leave, beyond that accounted for by respondents' gender and age, thus providing an affirmative answer to the first research question (RQ1).

Table 5. Hierarchical regression coefficients for intention to leave (final model)

Predictor	B	HC3 SE	β	t	p	95% CI for B	VIF
Constant	1,187	0.180	–	6,589	<0.001	[0.832, 1.541]	–
Male (vs. female)	0.082	0.074	–	1.102	0.271	[-0.064, 0.228]	1.06
Ages 31–40 (vs. <30)	0.034	0.093	–	0.370	0.712	[-0.148, 0.217]	2.08
Ages 41–50 (vs. <30)	-0.030	0.101	–	-0.297	0.767	[-0.228, 0.168]	2.10
Age >51 (vs. <30)	0.017	0.114	–	0.148	0.882	[-0.208, 0.242]	1.77
Personal burnout	0.026	0.066	0.022	0.396	0.692	[-0.104, 0.157]	1.74
Work-related burnout	0.128	0.078	0.139	1,653	0.099	[-0.024, 0.281]	5.62
Patient-related burnout	0.507	0.064	0.667	7,964	<0.001	[0.382, 0.632]	4.45

Notes: Dependent variable = intention to leave. HC3 heteroskedasticity-robust standard errors are reported. Standardized β coefficients are shown for the three continuous burnout predictors. Female and age <30 years are reference categories

Source: Authors

The regression results presented in Table 5 indicate that patient-related burnout has the strongest independent predictive contribution to explaining intention to leave ($\beta = 0.667$; $p < 0.001$), making it the only dimension of burnout that remained statistically significant in the final model. The positive regression coefficient ($B = 0.507$; 95% CI [0.382, 0.632]) indicates that higher levels of burnout associated with direct patient care are related to a stronger intention to leave, independently of the other predictors. The unique contribution of patient-related burnout was estimated as the squared semipartial correlation using the standardized regression coefficient and variance inflation factor reported in Table 5 ($\Delta R^2 = \beta^2/VIF = 0.667^2/4.45 \approx 0.100$). Thus, patient-related burnout uniquely explained approximately 10% of the total variance in intention to leave after accounting for the other predictors in the final model.

In contrast to patient-related burnout, the other two dimensions did not demonstrate statistically significant independent predictive contributions. Personal burnout had the lowest standardized regression coefficient ($\beta = 0.022$; $p = 0.692$), while work-related burnout showed a stronger positive association with intention to leave ($\beta = 0.139$), although it did not reach the conventional level of statistical significance ($p = 0.099$). This finding should be considered in light of the previously established strong bivariate correlation between work-related burnout and intention to leave ($r = 0.726$), as well as the very high correlation between work-related burnout and patient-related burnout ($r = 0.870$). These values indicate substantial shared variance between the two burnout dimensions, which may explain the reduced independent predictive contribution of work-related burnout in the combined regression model. Furthermore, none of the control variables, namely respondents' gender and age, showed a statistically significant association with intention to leave in the final model.

Multicollinearity was further assessed using variance inflation factor (VIF) values, with the highest values observed for work-related burnout (VIF = 5.62) and patient-related burnout (VIF = 4.45). Although the VIF for work-related burnout slightly exceeds the conservative threshold of 5, both values remain below the commonly applied threshold of 10. However, multicollinearity should not be assessed solely on the basis of predefined thresholds (O'Brien, 2007; Kim, 2019). Accordingly, individual regression coefficients are interpreted with appropriate caution, particularly given the strong correlation between these two dimensions. Nevertheless, the statistical significance of patient-related burnout was also confirmed using HC3 robust standard errors, establishing this dimension as the strongest independent predictor of intention to leave and thus providing an answer to the second research question (RQ2).

5. Discussion

The findings of this study highlight the importance of burnout in explaining healthcare workers' intention to leave their jobs, while also demonstrating that the three dimensions of burnout do not have equal predictive relevance. The first research question was answered affirmatively, as personal burnout, work-related burnout, and patient-related burnout

jointly made a statistically significant additional contribution to explaining intention to leave after controlling for respondents' gender and age. Specifically, the inclusion of the burnout dimensions increased the explained variance by 58.8 percentage points, bringing the total variance explained by the final model to 63.6%.

The findings relating to the second research question indicate that patient-related burnout has the strongest independent predictive contribution, whereas the other two dimensions did not retain statistical significance in the combined regression model. These results support the use of a multidimensional approach to examining burnout, particularly when the aim is to identify which sources of burnout are most strongly associated with employees' intention to leave a healthcare organization. The substantial additional contribution of the burnout dimensions indicates that intention to leave cannot be adequately explained by employees' demographic characteristics alone. Although gender and age made a statistically significant joint contribution in the initial model, the proportion of variance they explained was relatively small compared with that explained by the three burnout dimensions. This finding is consistent with previous research identifying burnout as an important factor associated with intention to leave among healthcare professionals (de Vries et al., 2024; Rotenstein et al., 2023; Christianson et al., 2023). However, the contribution of the present study lies not only in confirming this relationship but also in identifying differences among individual burnout dimensions when their predictive contributions are assessed simultaneously. In particular, a strong association between an individual burnout dimension and intention to leave does not necessarily imply a statistically significant independent contribution once the other dimensions are included in the regression model. The finding that patient-related burnout is the strongest independent predictor of intention to leave warrants particular attention.

This finding can be considered in the context of the specific nature of work in healthcare organizations, which involves daily interactions with patients, emotionally demanding situations, and responsibility for providing appropriate healthcare. Unlike personal burnout, which encompasses general physical and psychological exhaustion, and work-related burnout, which refers to exhaustion attributed to work responsibilities, patient-related burnout is directly associated with exhaustion that employees attribute to working with patients. This dimension may capture aspects of occupational demands that are particularly relevant to employees' decisions about whether to remain in a healthcare organization. Continuously responding to patients' needs, managing emotionally demanding interactions, and dealing with situations in which employees must meet different expectations may contribute to more frequent thoughts about leaving their jobs.

Nevertheless, this interpretation represents a possible explanation for the observed association, as the specific mechanisms through which working with patients may be related to intention to leave were not directly examined in this study. Notably, patient-related burnout demonstrated the strongest independent predictive contribution despite having the lowest mean score among the three CBI dimensions. In contrast, personal burnout had the highest mean score but did not make a statistically significant contribution in the final regression model. This finding indicates that higher levels of a particular burnout dimension are not necessarily associated with greater relevance in explaining intention to leave. In other words, the burnout dimension that healthcare professionals experience most intensely on average may not be the one that best differentiates employees according to the strength of their intention to leave. A similar pattern in the relative levels of the CBI dimensions was reported by Matthews et al. (2024) and Sartori et al. (2025), who found that personal burnout was more pronounced than the other dimensions. However, the findings of the present study further highlight the importance of distinguishing between the average level of burnout and its independent predictive contribution when examining the relationship between burnout and intention to leave.

The difference between the bivariate association of work-related burnout with intention to leave and its contribution in the final regression model is important for interpreting the findings. Although a strong positive correlation was observed between these two variables, work-related burnout did not reach the conventional level of statistical significance when the other burnout dimensions were included simultaneously in the model. This finding should not be interpreted as indicating an absence of association between exhaustion arising from work responsibilities and intention to leave. On the contrary, the very high correlation between work-related burnout and patient-related burnout ($r = 0.870$) indicates that these dimensions share a substantial proportion of their variance. This is further supported by the elevated VIF value for work-related burnout, which indicates multicollinearity and makes it difficult to distinguish precisely between their individual contributions. It is therefore possible that a substantial proportion of the association between work-related burnout and intention to leave reflects the component of exhaustion shared with patient-related burnout. When this shared component is statistically controlled for, the remaining independent contribution of work-related burnout is considerably smaller and no longer statistically significant.

A similar pattern was observed for personal burnout, although its bivariate association with intention to leave was weaker than those of the other two dimensions. The absence of a statistically significant independent contribution in the final model may be related to the fact that personal burnout encompasses general exhaustion that individuals do not necessarily attribute directly to their professional responsibilities or interactions with patients. According to Kristensen et al. (2005), this dimension includes an individual's physical and psychological exhaustion, whereas the other two dimensions allow exhaustion to be associated with specific sources of occupational demands. It is therefore possible that general exhaustion is associated with thoughts about leaving the job, but that its independent contribution diminishes when exhaustion directly attributed to professional work is considered simultaneously. However, the findings do not suggest that personal burnout is unimportant to employees, but rather that a statistically significant independent predictive contribution was not established in the regression model used in this study.

Comparison with previous studies provides an additional basis for interpreting these findings. Minamizono et al. (2019), in a study conducted among nurses in Japan, found that all three CBI dimensions were associated with intention to leave. However, their analysis relied on separate regression models, limiting the possibility of directly comparing the independent contributions of individual dimensions. The findings of the present study do not contradict their results, as all three burnout dimensions showed statistically significant bivariate associations with intention to leave in our sample. The difference emerges only when the dimensions are included simultaneously in the regression model, with patient-related burnout retaining statistical significance, while personal burnout and work-related burnout make no significant additional contributions. This further highlights the importance of model specification when assessing the relative predictive relevance of different sources of exhaustion. Differences are also evident when comparing our findings with those of Matthews et al. (2024), who conducted a study among midwives in Australia. In their study, all three CBI dimensions were associated with intention to leave the profession in univariate analyses, whereas only work-related burnout retained a statistically significant association in the final multivariate model. In contrast, patient-related burnout had the strongest independent predictive contribution in the present study. These differences may be related to the characteristics of the professional groups examined, differences in the organization of healthcare work, the control variables included, and the distinction between intention to leave the profession and intention to leave the job. As these factors were not directly compared across the studies, it is not possible to establish which of them accounts for the observed discrepancies. Nevertheless, the findings suggest that the relative importance of individual burnout dimensions may vary across healthcare systems. A particularly relevant comparison can be made with the study by McGrory et al. (2024), which employed a hierarchical regression approach and simultaneously examined the three CBI dimensions alongside other employee characteristics. The authors found that work-related burnout and client-related burnout remained statistically significant in explaining intention to leave the profession. The findings of the present study are partially consistent with their results, as exhaustion associated with direct patient care also retained statistical significance in our regression model. However, unlike the findings of McGrory et al. (2024), work-related burnout did not make a statistically significant independent contribution. This difference further suggests that the relative importance of the CBI dimensions may vary depending on the professional and organizational context, sample characteristics, and the operationalization of intention to leave. At the same time, the strong correlation between work-related burnout and patient-related burnout observed in our study highlights the need for caution when interpreting their individual regression coefficients.

The findings of the present study add to existing knowledge about intention to leave among healthcare workers in Serbia. Tripković et al. (2021) highlighted the importance of various individual and work-related factors associated with intention to leave in Serbia's public healthcare sector. Our study extends this approach by focusing on three conceptually distinct dimensions of burnout and their relative contributions to explaining intention to leave. The use of the CBI, whose psychometric properties have previously been examined in the Serbian context (Živanović et al., 2021), albeit among social workers, is also relevant. Unlike previous research in the Serbian healthcare sector that examined individual dimensions of the CBI (Simonović et al., 2025), the present study incorporates all three dimensions into a single regression model. In doing so, it provides additional empirical evidence on their associations with intention to leave among healthcare professionals in Serbia.

Regarding the control variables, the results indicate that gender and age groups did not make statistically significant independent contributions in the final regression model. This finding is particularly relevant given that previous studies have highlighted the importance of demographic characteristics in explaining intention to leave (Minamizono et al., 2019; Tripković et al., 2021; McGrory et al., 2024). However, the absence of statistical significance in our model does not imply that gender and age are irrelevant to healthcare workers' professional experiences or employment decisions. Rather, the findings indicate that, after accounting for the three burnout dimensions, no statistically significant differences in intention to leave were observed across the examined gender and age categories. This further supports the conclusion that the observed predictive contribution of patient-related burnout cannot be explained simply by the gender and age composition of the study sample.

From a human resource management perspective, the findings highlight the need for a differentiated approach to identifying and monitoring burnout in healthcare organizations. If burnout is assessed solely in terms of employees' general level of exhaustion, insufficient attention may be given to specific sources of stress that are more closely associated with intention to leave. The particular relevance of patient-related burnout suggests that managers of healthcare organizations should pay attention not only to employees' overall job satisfaction and workload but also to the difficulties they encounter during direct patient care. This may involve a more balanced distribution of work responsibilities, adequate opportunities for rest and recovery, access to support following emotionally demanding situations, and improved communication among employees, patients, and their family members. Further opportunities to strengthen organizational support include regular meetings following particularly demanding events, the availability of support, the development of communication skills, and the management of conflict situations. Such activities are particularly relevant in healthcare organizations where employees interact daily with patients who have diverse needs and medical conditions. Potential interventions by human resource managers should also address work organization, staffing levels, the allocation of responsibilities, and support from immediate supervisors.

Several limitations should be considered when interpreting the findings. First, the study employed a cross-sectional design, which precludes establishing causal relationships between burnout dimensions and intention to leave. Although the regression results indicate a significant predictive contribution of certain burnout dimensions in statistical terms, they do not provide sufficient grounds to

conclude that burnout directly causes intention to leave. An additional limitation is that all key constructs were measured using respondents' self-reports, introducing the possibility of common-method variance. The very high correlation between work-related burnout and patient-related burnout also warrants particular attention, as it may complicate the separation of their independent contributions and affect the precision of the estimated regression coefficients. Further limitations concern the sample characteristics and the selection of control variables. Although the study included 312 healthcare professionals from Serbia, the generalizability of the findings to the broader population of healthcare workers depends on the sampling method and the representation of different healthcare institutions. Age was analyzed as a categorical variable, preventing the examination of more subtle differences that might have emerged had a continuous measure been used. Furthermore, professional status in specific healthcare professions were not included as predictor or control variables in the research model. Consequently, it was not possible to determine whether the relative contributions of the CBI dimensions differ across professional groups.

These limitations do not diminish the significance of the observed associations but establish the boundaries within which the findings should be interpreted. Future research should focus on longitudinally monitoring occupational burnout and intention to leave to examine changes in these variables over time more precisely and assess the possibility of predicting actual employee turnover in healthcare organizations. Replicating the same regression model using samples from different healthcare professions and types of healthcare organizations would also be valuable. Another research direction could involve examining organizational factors that precede or are associated with patient-related burnout, such as workload, managerial support, team relationships, and the demands of direct patient care. Separate future studies could also investigate potential mediating or moderating relationships to provide further insight into the circumstances under which particular burnout dimensions exhibit stronger associations with intention to leave.

6. Conclusion

The findings of this study confirm the importance of burnout in explaining intention to leave among healthcare professionals in Serbia. The three burnout dimensions, considered jointly, made a statistically significant additional predictive contribution to explaining intention to leave after controlling for employees' gender and age. However, their individual contributions differed, with patient-related burnout emerging as the strongest and the only statistically significant independent predictor in the final regression model. This finding highlights the importance of distinguishing between different sources of occupational exhaustion rather than treating burnout solely as a single construct. From a human resource management perspective, the results indicate the need to pay particular attention to burnout associated with direct patient care when developing retention strategies for healthcare professionals in Serbia, while also monitoring broader occupational demands and work-related burnout. Nevertheless, given the cross-sectional design of the study, the observed associations do not allow causal conclusions to be drawn but provide an empirical basis for further research and the assessment of appropriate organizational measures.

Declaration of generative AI in the writing process

During the preparation of this manuscript, the author(s) did not use generative AI or AI-assisted technologies in the writing process.

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