

## ORIGINAL ARTICLE / ОРИГИНАЛНИ РАД

# Relationship between work-related outcomes of healthcare professionals in transfusion medicine units

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**Introduction/Objective** Professional burnout has sparked academic interest as one of the phenomena with the most serious implications for healthcare employees' well-being. As burnout becomes an increasingly common issue in medical practice, more extensive research on its predictors is needed.

This study aimed to examine whether and how job satisfaction and work-related burnout affect personal burnout.

**Methods** A structured questionnaire was used to collect primary data. The sample consists of 218 employees from transfusion medicine units located in five cities in the central part of Serbia. Descriptive statistical analysis, correlation, and hierarchical regression were applied.

**Results** We found the personal burnout is negatively affected by job satisfaction, predominantly by working conditions ( $\beta = -0,141$ ,  $t = -2,780$ ,  $p < 0.01$ ), and positively impacted to work-related burnout ( $\beta = 0,690$ ,  $t = 13,409$ ,  $p < 0.001$ ) indicated that workload has strong impact on personal life quality of healthcare professionals employed in blood banks.

**Conclusion** This research contributes to more comprehensive understanding of personal burnout factors. The findings of this study can be used to develop strategies to promote employee well-being and prevent burnout in different manifestations.

**Keywords:** job satisfaction; work-related burnout; personal burnout; blood bank

**INTRODUCTION**

Burnout might lead to severe consequences that affect not only work attitudes, but also the overall quality of healthcare provided to patients. High levels of burnout cause a rise in sickness absence from work and society, as well as substantial repercussions on nursing performance [1]. Due to its multifaceted nature, burnout management requires a systematic approach and prompt action. According to Stašević-Karličić et al. [2], healthcare professionals who are susceptible to burnout symptoms need to receive special psychological support. Therefore, to avoid burnout and develop effective prevention strategies, it is necessary to investigate its various forms as well as the relationship with the potential antecedents. In the Copenhagen Burnout Inventory (CBI) instrument, Kristensen et al. [3] assess the assignment of fatigue and exhaustion to specific domains of an individual's life, namely personal, work-related, and client-related burnout. While personal burnout refers to general exhaustion, work-related burnout is closely associated with the job itself and its occurrence is triggered by work environment determinants.

Over the last few decades, there has been recorded presence of burnout syndrome in medical practice. Moreover, Berat et al. [4]

highlight the higher prevalence of work-related burnout among employees in the Republic of Serbia compared to previous research findings measuring this construct in other countries. However, prior studies were particularly concerned with examining the prevalence of work-related and personal burnout in various occupations. None of them explores the CBI inter-scale cause-effect relationships, therefore it is still uncertain which form of burnout occurs first. Besides, the number of studies that assessed employee satisfaction and burnout in the work and personal domain, specifically in the healthcare industry, is limited. To address the identified research gap, this study will look into the impact of job satisfaction and work-related burnout on personal burnout.

**Job satisfaction and burnout**

Assessing work satisfaction among medical professionals is a necessary step in the process of continuously raising the standard of healthcare [5]. A significant number of research have examined job satisfaction and burnout in the healthcare area. According to Tsigilis and Koustelios [6], both investigated conceptions describe affective reactions to working environments, are multidimensional, and despite some degree of overlap, they are distinct ideas. Job

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satisfaction and burnout are constructs that influence one another. Burnout has been linked to lower levels of both job and personal satisfaction, according to Hombrados-Mendieta and Cosano-Rivas [7]. The combined effects of working at highly loaded hospitals, low wages, long working hours, and occupational burnout lead to lower levels of job satisfaction [8]. Furthermore, work-related burnout is discovered to be a statistically significant negative predictor of job satisfaction in the study by Ślusarz et al. [9], whereas job satisfaction has a feedback effect, reducing the symptoms of burnout in nurses working in neurology and neurosurgery departments.

Because of the aforementioned, further research is required to understand the nature of the connection between burnout and satisfaction and to establish its causality [6]. In the study of Figueiredo-Ferraz et al. [10], a direct two-way association between nurse burnout and satisfaction was also found. However, several studies find that satisfaction is a requirement for the decrease in burnout symptoms among medical professionals, which embodies the prevention of severe implications like incorrect diagnoses, inaccurate assessments, career interruption, and early retirement, that potentially harm both employees and patients [11]. Because of this, job satisfaction is not considered a result of burnout in this study but rather a predictor.

Healthcare professionals' performance can be greatly influenced by their satisfaction level and burnout symptoms. These two factors interact to affect nurse productivity, patient care quality, and nurse retention in the workplace [12]. Their capacity to predict employee behavior illustrates how important the integrated analysis of satisfaction and burnout is. In previous studies, these constructs have been associated with employee retention. Unlike most other professions, the medical industry is characterized by emotional labor that lowers employee satisfaction, leads to burnout, and ultimately implies the intention to quit the job [13, 14].

The connection between satisfaction and burnout syndrome has been empirically proven multiple times. Song et al. [11] showed that job satisfaction is a direct negative predictor of job burnout among medical workers in mental hospitals. Furthermore, job satisfaction, along with nurses' demographic characteristics, their involvement in management, and working in multiple institutions, is a significant antecedent of burnout in Portuguese hospitals [14]. The same authors concluded that job satisfaction reduces emotional exhaustion, as one of the burnout manifestations. Furthermore, Tremolada et al. [15] found a significant association between job satisfaction and burnout in a sample of health professionals in apheresis units. In addition, their research revealed high values for all burnout indicators.

### Job satisfaction and personal burnout

The cause-effect relationship between job satisfaction and burnout using the CBI approach is almost completely unaddressed. There are only a few studies in the literature that have linked employee satisfaction in various sectors to

these types of burnout. Lee and Lin [16] found that overall satisfaction correlates with a burnout in personal and work domains in the sample of Taiwanese clinical nurses. According to a study by Payne et al. [17] that involved a sample of staff members affiliated with psychiatric nursing, low levels of job satisfaction are substantially correlated with higher rates of burnout, including personal, work-related, and client-related burnout. Based on the Project on Burnout, Motivation and Job Satisfaction study, Kristensen et al. [3] tested the validity of the CBI instrument and found a significant relationship between job satisfaction and all forms of burnout, including personal burnout. According to Berat et al. [4], relationships with colleagues, the nature of work, and communication, are negatively connected to work-related burnout in a sample of employees in the Republic of Serbia working in a variety of occupations.

### Work-related burnout and personal burnout

Personal burnout differs from work-related burnout since it represents general tiredness and people's attribution of burnout in their personal life [18]. However, there is no empirical evidence in the extant literature concerning the pattern and sequence in which different forms of burnout arise. Work-related and personal burnout are both inversely correlated with job satisfaction among American nurses, according to Montgomery et al. [19], and there is a substantial relationship between these two components of the burnout scale. Work-related burnout is positively associated with personal burnout among social workers [3]. It positively correlates with burnout in the personal domain in a study conducted on a sample of teachers in Italian schools by Fiorilli et al. [20]. Sestili et al. [21] identified a significant positive relationship between work-related and personal burnout among academics in medicine and pharmacy. A very strong positive intercorrelation between work-related and personal burnout was also established in the research of Walters et al. [22] and Lapa et al. [23] in a group of social workers and physicians of different specialties in Portugal, respectively.

### METHODS

A cross-sectional study was performed within the hospital blood banks at stationary health institutions in five cities in the central part of Serbia. The questionnaire forms were distributed to employees and 218 of them were returned fully completed. The academic purpose of the study was explicitly disclosed to all participants and their anonymity was ensured. In light of the foregoing, respondents inserted the completed questionnaire in the special envelope and only the research team had access to the data. Regarding gender, 66.5% of the sample is female. The majority of respondents were between the ages of 46 and 55, followed by those under the age of 35, while 23.8% of respondents were aged 55 and over. The most numerous groups in the sample are respondents with a high school degree (155),

followed by specialists, subspecialties, and primarii (54). Respondents with master's and Ph.D. degrees make up 2.3% of the sample, while the smallest group of respondents have a primary school degree. Employees with more than 20 years of work experience exceed those with less than five years of experience, who are almost equally present in the sample as respondents with 11–20 years of experience. The smallest percentage has 6–11 years of service in the current institution.

## Measurements

In addition to the demographic data section, the questionnaire had three other segments. The first two measure the independent variables, while the last section consists of items for assessing the dependent construct. Using previously established and multiple times tested scales in previous research provided high reliability of the measures in our study. All the items were translated from English and adjusted to the Serbian setting. The participants scored every question on a five-point Likert scale, ranging from “strongly disagree”, marked by 1, to “strongly agree” indicated by 5.

The first subscale includes eight statements used to estimate job satisfaction. These were derived from the Job Satisfaction Survey developed by Spector [24] and proved suitable for human service research. These statements analyze the nature of work, operating conditions, and communication. The nature of work was measured with two items, for instance, “My job is enjoyable.” The operating conditions subscale contained three negatively worded items. One of the items in this measure, for example, states “My efforts to do a good job are seldom blocked by red tape.” Communication was also measured with three items, while some of them were negatively keyed; for instance, “Work assignments are not fully explained.” The Cronbach's  $\alpha$  value for job satisfaction was 0.75, which indicated satisfactory internal consistency of the items.

We used the CBI [3] to assess burnout levels and constitute the other two subscales. This instrument has been validated in a variety of occupations, including the medical field. Three questions designed to assess work-related burnout were placed in the first subscale and included “Are you exhausted in the morning at the thought of another day at work?”, and “Do you feel that every working hour

is tiring for you?” The last section refers to personal burnout. It also consists of three questions, such as “How often are you emotionally exhausted?” and “How often do you feel worn out?” The Cronbach's  $\alpha$  for work-related and personal burnout was 0.86 and 0.88, respectively, showing excellent reliability for both subscales.

Using the SPSS Statistics for Windows, Version 26.0. (IBM Corp., Armonk, NY, USA) we performed several statistical analyses, beginning with descriptive statistics and correlation. Job satisfaction, work-related, and personal burnout constituted a hierarchical regression model in this research. Sex, age, education, and length of service of participants, were chosen as control variables.

We confirm that we have read the journal's position on issues involving ethical publication and affirm that this work is consistent with those guidelines.

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

## RESULTS

According to the results of descriptive statistics, respondents indicated moderately high levels of job satisfaction. Mean values were highest for the statements “I like doing the things I do at work” ( $M = 4.16$ ) and “My efforts to do a good job are seldom blocked by red tape” ( $M = 3.86$ ). Within the scale that measured burnout, we found the highest mean value for the question “Do you have enough energy for family and friends during leisure time?” ( $M = 3.19$ ) with the major standard deviation ( $SD = 1.46$ ). Within items that measured job satisfaction, the highest heterogeneity of responses was recorded for the question “Many of our rules and procedures make doing a good job difficult” ( $SD = 1.32$ ) (Table 1).

As presented in Table 1, the strongest positive connection was identified between work-related and personal burnout ( $r = 0.742$ ). Among job satisfaction dimensions, we found a moderately strong positive correlation between the nature of work and operating conditions ( $r = 0.489$ ). According to the results, work-related and personal burnout negatively correlate with operating conditions.

**Table 1.** Correlation analysis of personal burnout, job satisfaction, work-related burnout, and control variables ( $n = 218$ )

Variables	1	2	3	4	5	6	7	8	9
1 Sex									
2 Age	0.134*								
3 Education	0.070	0.041							
4 Years within organization	0.083	0.751**	-0.087						
5 Nature of work	-0.095	-0.054	0.104	-0.073					
6 Operating conditions	0.046	-0.131	-0.004	-0.155*	-0.025				
7 Communication	0.086	-0.042	0.065	-0.108	0.489**	0.190**			
8 Work-related burnout	-0.034	0.243**	-0.012	0.264**	0.008	-0.442**	-0.152*		
9 Personal burnout	-0.122	0.198**	-0.161*	0.256**	-0.133	-0.433**	-0.243**	0.742**	

Note: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 2.** Hierarchical multiple regression analyses for job satisfaction and work-related burnout of personal burnout

Constructs	R <sup>2</sup>	R <sup>2</sup> change	F	Standardized coefficient $\beta$	t	Tolerance	VIF
<b>Block 1: Control variables</b>	0.085		4.963***				
Sex				0.054	1.173	0.921	1.085
Age				0.031	0.444	0.405	2.469
Education				0.097	2.126*	0.932	1.073
Years within organization				0.055	0.785	0.397	2.519
<b>Block 2: Job satisfaction</b>	0.245	0.159	9.713***				
Nature of work				0.103	2.038*	0.764	1.309
Operating conditions				-0.141	-2.780**	0.760	1.316
Communication				-0.001	-0.025	0.714	1.401
<b>Block 3: Work-related burnout</b>	0.594	0.349	38.211***	0.690	13.409***	0.733	1.363

Note: \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001  
VIF – variance inflation factor

Concerning the connection between burnout and the control variables, it was either statistically insignificant or significant, but very mild.

As reported in Table 2, control variables were responsible for an 8.5% variance in personal burnout. Nature of work, operating conditions, and communication were entered in the second set and accounted for an additional 15.9% variance in personal burnout. The nature of work significantly affects personal burnout at the level  $p < 0.05$ . The operating conditions are a negative predictor of work-related burnout and this result is significant at the level  $p < 0.001$ . Lastly, work-related burnout accounted for an additional 34.9% variance. The result implies that among the variables that have been observed, work-related burnout has the strongest influence on burnout in the personal domain. The three sets accounted for 59.4% of the variance in personal burnout. A considerable F change after the inclusion of two sets of variables indicates that adding job satisfaction and work-related burnout significantly increases model prediction.

## DISCUSSION

The results of the study showed that job satisfaction has a statistically significant impact on the level of personal burnout in transfusion units. Observed dimensions of satisfaction – nature of work, working conditions, and communication, are inversely connected with burnout, which partially supports the conclusion made by Berat et al. [4]. Among the studies that used the same burnout measurement, the result is also consistent with the conclusions of the research by Payne et al. [17] and partially corresponds to the results generated by Kristensen et al. [3]. Additionally, the obtained finding is consistent with the research of Berthelsen et al. [25], as well as with the one conducted by Piko [26], showing that job satisfaction is a negative predictor of all dimensions of burnout among Hungarian healthcare staff. The reported result partially contradicts the study by Tsigilis and Koustelios [6], which found a weak or very weak association between certain dimensions of satisfaction and emotional exhaustion, depersonalization, and personal achievement.

The observed partial instead of complete agreement with previous research is a result of the use of different measuring instruments that assessed burnout levels, as well as the variety of professions in which the relationship between satisfaction and burnout was studied. The same constructs are structured differently in these studies as a result of the use of various measuring tools, which restricts the ability to compare relevant findings. The research conducted revealed that a high level of job satisfaction lowers the likelihood of experiencing generic or personal burnout. In other words, the development of positive work attitudes among employees functions as a mechanism for preventing or minimizing personal burnout syndrome, which enhances employees' health and might even inspire improved performance [27]. At the same time, the analysis showed that the strongest negative effect on personal burnout is achieved by satisfaction with operating conditions. The degree to which an employee evaluates working conditions, including policies and procedures, can prevent burnout.

Another significant factor of personal burnout among employees in transfusion departments identified in this research is work-related burnout. The two forms of burnout are linked, according to several prior studies, however, these analyses are correlational in nature, making it challenging to establish a causal connection between the investigated constructs. In this regard, the result obtained is quite consistent with the work of Kristensen et al. [3], Fiorilli et al. [20], Sestili et al. [21], Walters et al. [22], and Lapa et al. [23]. Additionally, it supports the findings of Molinero-Ruiz et al. [18], who examined the reliability of the CBI using a sample of workers from the Spanish educational, healthcare, social work centers, and industry sector and found a high correlation between personal and work-related burnout. The result also agrees with the finding of the study by Thrush et al. [28] who showed a very strong correlation between work-related and personal burnout. Nevertheless, it partially conflicts with the findings of a study by Youssef et al. [29] which examines the validity of the Arabic version of the CBI instrument on a sample of community pharmacists and found a very poor link between work-related and personal burnout.

The findings indicate that tiredness, a lack of time for friends and family, frustrations, and effort related to the



work itself all lead to the emergence of personal burnout, which manifests as persistent fatigue, emotional and physical exhaustion, and a sense of weakness. According to this research, the form of burnout that occurs as a result of the job features increases the risk of developing a set of symptoms known as personal burnout, which decides an individual's overall quality of life.

## CONCLUSION

Designing preventive strategies for burnout requires an understanding of the elements that contribute to its development. Managers and staff members need to become aware of the risk of burnout, which may eventually result in their intention to quit their job, which has several detrimental effects on the entire institution. Burnout should

be addressed collaboratively by all organization members, and its suppression needs to be a group effort rather than an individual concern. It is recommended that managers change the way things are done to decrease paperwork and work volume. Additionally, they should look for approaches to influence how staff members view their job so that they like it, take pride in it, and have a passion for what they do. Efforts should be made to enhance group communication. In this regard, managers should attempt to make the organization's goals more explicit while involving staff in significant decisions. Besides, they need to make sure that work tasks are understood by everyone in the organization for higher levels of satisfaction. Greater satisfaction would be ensured by the enhancement of these components, which eventually results in less burnout.

**Conflict of interest:** None declared.

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## Однос између различитих исхода посла здравствених радника у јединицама за трансфузију крви

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### САЖЕТАК

**Увод/Циљ** Као један од феномена са озбиљним последицама на понашање и добробит здравствених радника, професионално сагоревање пробудило је заинтересованост савремених истраживача. Како овај синдром постаје све чешћа појава у медицинској пракси, јавила се потреба за опсежнијим испитивањем његових предиктора.

Циљ ове студије је да испита да ли и на који начин задовољство и сагоревање повезано са послом утичу на личне факторе сагоревања.

**Метод** Примарни подаци прикупљени су техником структурираног упитника. Истраживачки узорак обухватио је 218 испитаника запослених у јединицама за трансфузију крви у централној Србији. За потребе анализе података примењене су дескриптивна статистика, корелација и хијерархијска регресија.

**Резултати** Студија је показала да је задовољство послом негативан предиктор личних фактора сагоревања, првенствено радни услови ( $\beta = -0,141$ ,  $t = -2,780$ ,  $p < 0,01$ ), док сагоревање повезано са послом има статистички значајан позитиван утицај на личне факторе сагоревања ( $\beta = 0,690$ ,  $t = 13,409$ ,  $p < 0,001$ ) указујући да оптерећење послом може имати снажан утицај на квалитет живота здравствених радника запослених у јединицама за трансфузију крви.

**Закључак** Сprovedено истраживање доприноси подробијем разумевању детерминанти анализираних конструкта. Резултати ове студије обезбеђују смернице менаџерима за развој стратегија за повећање добробити запослених и превенцију различитих облика сагоревања код здравствених радника.

**Кључне речи:** задовољство послом; сагоревање повезано са послом; лични фактори сагоревања; банка крви