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Personality and burnout among medical doctors in the Republic of Serbia

Карактеристике личности и синдром изгарања код лекара у Републици Србији

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Personality and burnout among medical doctors in the Republic of Serbia

Карактеристике личности и синдром изгарања код лекара у Републици Србији

SUMMARY

Introduction/Objective Burnout is a multidimensional syndrome that disproportionately affects healthcare professionals. While organizational and occupational factors have been extensively studied, the role of individual traits, such as personality, remains underexplored. This study aimed to examine the relationship between specific personality traits, sociodemographic variables, and occupational burnout among medical doctors in the Republic of Serbia.

Methods A cross-sectional, correlational study was conducted in 2024 using an online survey completed by 304 medical doctors. The instruments included a sociodemographic questionnaire, a shortened Big Five Plus Two personality inventory, and the Copenhagen Burnout Inventory (work-related scale). Data were analyzed using descriptive statistics, t-tests, and linear regression.

Results There were no significant gender differences in burnout levels ($p = 0.958$), nor differences based on communication skills training ($p = 0.214$). However, participants who reported insufficient time for patient care had significantly higher burnout levels ($p < 0.001$). Linear regression analysis indicated that extraversion negatively predicted burnout ($\beta = -0.24$, $p = 0.003$), while conscientiousness ($\beta = 0.21$, $p = 0.002$) and openness ($\beta = 0.12$, $p = 0.024$) were positive predictors. The model was significant ($R = 0.307$, $F(5,298) = 6.18$, $p < 0.001$), explaining 9.4% of the variance in burnout.

Conclusion Extraversion appears to serve as a protective factor against burnout, whereas higher levels of conscientiousness and openness are associated with increased burnout. These findings highlight the relevance of personality traits in burnout susceptibility and suggest the potential for targeted interventions in physician support programs.

Keywords: occupational stress; personality traits; health personnel; psychological resilience

САЖЕТАК

Увод/Циљ Синдром изгарања је вишедимензионални поремећај који нарочито погађа здравствене раднике. Како улога индивидуалних карактеристика, попут особина личности није довољно истражена, циљ истраживања био је да испита повезаност карактеристика личности, социодемографских одредница и синдрома изгарања међу лекарима запосленим у Републици Србији.

Методе Спроведена је студија пресека, корелационо истраживање 2024. године на узорку од 304 лекара путем онлајн упитника. Примењени су социодемографски упитник, скраћена верзија инструмента „Великих пет плус два“ и радна подскала Копенхагенског упитника изгарања. Подаци су анализирани дескриптивном статистиком, т-тестом и линеарном регресијом.

Резултати Није утврђена статистички значајна разлика у нивоу изгарања између мушкараца и жена ($p = 0{,}958$), нити у зависности од обуке из комуникационих вештина ($p = 0{,}214$). Ипак, учесници који су изјавили да немају довољно времена за рад са пацијентима имали су значајно виши ниво изгарања ($p < 0{,}001$). Анализа линеарне регресије показала је да екстраверзија негативно предвиђа изгарање ($\beta = -0{,}24$, $p = 0{,}003$), док су савесност ($\beta = 0{,}21$, $p = 0{,}002$) и отвореност ($\beta = 0{,}12$, $p = 0{,}024$) позитивни предиктори. Модел је био статистички значајан ($R = 0{,}307$, $\Phi(5{,}298) = 6{,}18$, $p < 0{,}001$) и објашњавао је 9,4% варијансе изгарања.

Закључак Екстраверзија се показала као заштитни фактор од синдрома изгарања, док су више вредности савесности и отворености повезане са израженијим изгарањем. Ови налази указују на значај особина личности као вулнерабилног фактора за изгарање и наглашавају потребу за циљаном подршком лекарима кроз специфичне интервенцијске програме.

Кључне речи: професионални стрес; карактеристике личности; здравствени радници; психолошка отпорност

INTRODUCTION

Burnout is a syndrome referred to as the "work phenomenon," even though it lacks a single definition [1, 2], Maslach and Jackson [3] categorized burnout as emotional exhaustion, depersonalization, and low personal accomplishment, relating to a sense of competence and successful achievement in work.

While people in nearly all professions can experience burnout due to continuous exposure to job-related stress, "helping" professions such as healthcare workers, lawyers, teachers, and social workers are more likely to experience burnout. [4] Numerous studies have shown that burnout affects various healthcare workers [4, 5], negatively impacting their physical and mental health. Undesirable effects can include stress-related psychiatric and somatic complaints such as depression, anxiety, memory problems, sleep disturbance, and cardiovascular disorders. [6] Medical errors, reduced productivity, early retirement, and a disrupted work-life balance are common consequences of these negative impacts. [7, 8] Given its prevalence and potential harmful effects, understanding the underlying causes of burnout is crucial.

When examining the etiology of burnout, opinions vary. Many believe that the nature of the job and the circumstances in which the job is performed are the main triggers for the development of burnout. [9–12] While there has been considerable focus on studying how sociodemographic, organizational, and occupational factors relate to burnout, the connection between burnout and individual factors, like personality traits, has been relatively underexplored. [13]

The question arises as to why some people who do the same job under the same conditions experience burnout while others do not exhibit such symptoms. Often, researchers conclude, as supported by a large number of them, that alongside the nature of the job, personality traits play a crucial role in the development of burnout. Personal characteristics have been shown to be factors contributing to burnout. [13–16] A study in Serbia that examined burnout syndrome in the academic population obtained the following results: most participants (85.6%) expressed a moderate degree of burnout. Emotional exhaustion and depersonalization were linked to traits such as aggressiveness, neuroticism, and negative valence, whereas personal accomplishment showed a positive correlation with characteristics like extraversion, conscientiousness, openness, and positive valence. [17] Numerous studies conducted in the past decade have emphasized the importance of psychological factors and identified specific personality traits that either facilitate or act as barriers to burnout development. [13–16] Recent studies and reviews have confirmed that personality traits, particularly neuroticism, extraversion, conscientiousness, agreeableness, and openness, are relevant to burnout susceptibility in healthcare professionals. [13–16] The Big Five theory, which breaks down personality into five basic components, is a widely accepted framework for measuring personality traits. The Big Five model is considered the most reliable and cost-effective model for analyzing the relationships between personality traits and behavior. [18] The Big Five personality traits are perceived as a key measure of personality and classify personality into five broad dimensions: neuroticism, extraversion, conscientiousness, agreeableness, and openness. [18] The Big Five theory is a widely accepted framework for measuring personality traits. [18] In the Serbian context, the Big Five Plus Two model was developed from lexical descriptions of personality and subsequently validated in a shortened version. [19, 20] Most reviewed studies indicate that individuals with higher levels of neuroticism and lower levels of extraversion, agreeableness, conscientiousness, and openness are more prone to burnout. [13] Neuroticism, in particular, can

contribute to burnout due to difficulties in managing emotions and impulses. Neurotic individuals often experience insecurity, anxiety, anger, and symptoms of depression, which hinder their ability to meet work tasks and act as an amplifying "filter" for negative events, increasing the risk of burnout. [13, 16, 21–23] On the other hand, agreeableness, which enables warm interpersonal interactions, can have a protective effect against burnout, preventing individuals from experiencing depersonalization. [13, 16, 21–23] However, the results are not entirely consistent. Some studies have reported significant correlations between openness and burnout, which is not the case with most others that found a negative relationship between these two components. For example, a negative relationship was observed between openness and personal/professional achievement, as well as positive correlations between openness and emotional exhaustion and depersonalization. [13, 16, 21–24] Furthermore, while certain studies found a positive relationship between burnout and extraversion, the reasons for this contradictory finding remain unexplained. [13, 16, 24] Given these discrepancies, further clarification of the links between the Big Five personality traits and burnout is needed.

The research goal is to examine the relationship between specific personality traits, sociodemographic parameters and the development of burnout syndrome among medical doctors employed in the territory of the Republic of Serbia. The aim is to explore the specific connections that link each of the Big Five personality traits and specific sociodemographic profiles with the components of burnout. It is essential to understand the relationships between personality traits and occupational burnout syndrome in order to identify workers who are most susceptible to burnout and implement more activities to protect against risks.

METHODS

Research design

Cross-sectional, comparative and correlational research design using an online self-assessment survey was applied to a sample of medical doctors employed on the territory of Republic of Serbia.

Sample and setting

The planned research was conducted as a cross-sectional study in 2024 using a population of medical doctors. The study included 304 participants, medical doctors of both genders and different specialties employed on the territory of the Republic of Serbia. The research was conducted through an online questionnaire distributed to the mentioned group of participants. The inclusion criteria were that the person is a medical doctor by profession and is employed on the territory of Serbia, consent to participate in the scientific study and a completed questionnaire. There were no exclusion criteria.

Instruments

The sociodemographic questionnaire. The demographic parameters covered include gender, age, years of undergraduate study, place of employment (primary, secondary, or tertiary healthcare institution), employment sector (public and/or private), the presence and type of medical specialization, average number of on-call shifts per month. The questionnaire also includes marital status, the need for psychological or psychotherapeutic support, communication skills, and the subjective impression of the adequacy of the time available for diagnosing and/or treating patients. It consists of 16 mostly mixed-type questions: dichotomous response format, multiple-choice answers, and open-ended questions.

Personality traits. For the assessment of personality traits, a shortened version of the Big Five Plus Two questionnaire was used. [19, 20] Specifically, the Big Five Inventory (BFI), developed by John, Donahue, and Kentle in 1991, is an instrument consisting of five scales used to assess the key characteristics of the Big Five personality dimensions, including neuroticism, extraversion, conscientiousness, agreeableness, and openness. [18] This shortened version of the Big Five Plus Two questionnaire, created by Serbian psychologists, was constructed based on lexical descriptions of personality in the Serbian language. The questionnaire measures seven personality dimensions: Neuroticism, Extraversion, Openness, Conscientiousness, Aggressiveness, Positive Valence, and Negative Valence. [19] The questionnaire is publicly available, and no license is required for its use. It was subsequently validated in 2014, demonstrating satisfactory reliability, convergent, and predictive validity. [20]

Burnout syndrome. The Copenhagen Burnout Inventory was used to assess burnout syndrome, which consists of 19 questions that examine exhaustion and fatigue related to burnout in three domains: personal burnout (6 questions), work-related burnout (7 questions), and client-related burnout (6 questions). [25] The questionnaire is designed to be applicable to all groups of people, regardless of their employment status. For the purposes of this research, a portion of the questions related to work-related burnout was used. The work-related burnout subscale was selected because the primary aim of the study was to examine occupational burnout specifically associated with professional demands and workplace functioning among medical doctors. Given the study focus on work environment characteristics and occupational stressors, the work-related dimension of the Copenhagen Burnout Inventory was considered the most directly relevant for the research objectives. Responses to the Copenhagen Burnout Inventory at work are presented on a five-point Likert scale, ranging from 0 to 5, where 0 represents "never" and 5 represents "always." The questionnaire was translated and adapted to the Serbian language by a multidisciplinary team using standard translation methods (forward translation, back-translation, and pre-testing) following the World Health Organization's recommendations. Previous Serbian-language applications of the Copenhagen Burnout Inventory have reported satisfactory psychometric properties in local samples. [26, 27] Recent validation work in physicians has also supported the psychometric adequacy of the Copenhagen Burnout Inventory. [28] Pilot testing was conducted with 20 participants to assess the clarity and comprehensibility of the

questionnaire's questions, the correctness of their order, and to determine the time required for completion.

Ethics: According to the Declaration of Helsinki, the study has been approved by competent ethics committee, and conforms to the legal standards (No. 01–39/93/1). Participation in the study was voluntary. All participants were informed of the study's objectives. Anonymous answers guaranteed data confidentiality.

RESULTS

Sample

The study involved 304 physicians, of which 114 (37.5%) were male and 190 (62.5%) were female. The participants' ages ranged from 25 to 66 years, with a mean of 37.38 years. Table 1 displays additional sociodemographic data of the participants.

Based on the sociodemographic data presented in Table 1, we can conclude that the majority of respondents are married or in a relationship, have no children, are employed in tertiary healthcare institutions, in the public sector, in the Republic of Serbia, and are currently undergoing specialization or have completed it. Table 2 displays the distribution of respondents according to ongoing or completed specializations.

Out of the total number of respondents, only 86 (28.3%) reported having received some form of communication skills training during their education. When asked whether they believe they have enough time for reliable diagnosis and/or treatment of patients, 134 (44.1%) respondents answered affirmatively. Of the total number of respondents, 47 (15.5%) have attended psychotherapy or sought some form of psychological assistance in the past 6 months (Table 1).

Results

Before conducting the main analyses, descriptive statistics of the variables used in the study, as shown in Figure 1, were examined. Based on the skewness and kurtosis values, we can conclude the normality of the distributions of the given variables, fulfilling the prerequisite for conducting further analyses.

To examine whether there are differences in the level of occupational burnout between men and women, participants with previous training in communication skills and those without, as well as between participants who sought psychological assistance and those who did not, a t-test was conducted for each of the listed variables (Figure 2). Based on the results of the t-test, we can conclude that there are no gender differences in the level of burnout at work, nor differences between participants who had communication skills training and those who did not. A significant difference was found regarding perceived time for patients. Participants who perceive that they do not have enough time to dedicate to each patient experience a higher level of burnout at work. The difference in burnout related to seeking

psychological assistance was found to be non-significant at the borderline of significance. It seems that participants who experience higher burnout at work more frequently seek psychological assistance, but this difference did not reach statistical significance.

To examine how personality traits contribute to explaining the degree of burnout at work, a linear regression was conducted, with personality traits as predictors and burnout at work as the criterion variable. The results of the analysis ($R = .307$, $F(5,298) = 6.18$, $p < .001$) were found to be significant. The percentage of explained variance is 9.4%. Individual contributions of variables to explaining the criterion are shown in Table 3. Significant predictors were extraversion in the negative direction ($\beta = -0.24$) and conscientiousness ($\beta = 0.21$) and openness ($\beta = 0.12$) in the positive direction.

DISCUSSION

This study sought to investigate the relationship between personality traits, sociodemographic parameters, and the development of burnout syndrome among medical doctors in Serbia. To our knowledge, this is among the first studies in Serbia, encompassing various healthcare facilities.

Previous studies have reported inconsistent findings regarding gender differences in burnout, suggesting that gender effects may vary depending on occupational context, workload, and organizational conditions [4, 5, 8].

However, our results suggest that within the Serbian medical context, burnout transcends gender lines, indicating that occupational stressors may outweigh gender-specific factors. The findings highlight the importance of considering both occupational conditions and broader psychosocial circumstances when addressing burnout prevention among healthcare professionals. It is advised to launch stress management and resilience programs specifically designed for healthcare workers to effectively navigate workplace stressors. Moreover, the introduction of flexible working conditions is recommended to support professionals across different personal circumstances, potentially including part-time roles and adaptable schedules. There is also a call for specialized support for those in high-stress areas or at greater risk of burnout, possibly through peer support, mentorship, and mental health resources. Conducting regular evaluations of burnout levels will help in identifying and addressing trends and at-risk groups, ensuring a healthier work environment.

The relationship between workload, specifically the perception of insufficient time for patient care, and burnout cannot be overstated. Participants reporting inadequate time allocation for patients exhibited higher burnout levels, underscoring the critical impact of workload management on healthcare professionals' well-being. [9–12] This finding is particularly relevant in the context of Serbia's healthcare system, which, like many others, is grappling with resource constraints and staffing shortages. Enhancing workforce management strategies to better allocate time for patient care is paramount. This could include adopting more efficient patient scheduling systems, increasing the healthcare workforce to reduce individual workload, and implementing time management training for staff. This could

improve healthcare professionals' well-being and the overall quality of patient care within the constraints of Serbia's healthcare system.

Taken together, these findings support the view that burnout among physicians cannot be explained solely by either organizational or individual factors. While workplace conditions such as workload and insufficient time for patient care represent important external stressors, individual personality characteristics appear to influence how physicians perceive, process, and cope with these demands. Our results therefore suggest that burnout develops through the interaction between organizational pressures and individual vulnerability factors.

Our findings underscore the multifaceted nature of burnout, revealing that personality traits significantly contribute to the syndrome's development, consistent with prior research indicating the role of individual differences in susceptibility to burnout. [13–16, 21–24, 29] Although the regression model was statistically significant, the relatively modest percentage of explained variance suggests that burnout is a multifactorial phenomenon influenced by numerous additional organizational, occupational, interpersonal, and psychological factors that were not included in the present model.

Furthermore, personality traits like extraversion, conscientiousness, and openness were found to be significant predictors of burnout at work, highlighting the role of individual differences in coping with occupational stress. Interestingly, extraversion appeared to serve as a protective factor against burnout [13, 16, 24, 29], which aligns with previous studies suggesting that extroverted individuals may possess better coping strategies and social support mechanisms. [13, 16, 30] The finding that conscientiousness and openness positively predicted burnout differs from part of the existing literature and may reflect specific characteristics of the medical profession. Highly conscientious physicians may demonstrate excessive responsibility, perfectionism, and increased emotional investment in patient care, which can contribute to chronic occupational stress and exhaustion. Similarly, individuals with higher openness may exhibit greater emotional sensitivity, stronger engagement with complex interpersonal situations, and heightened awareness of workplace difficulties, potentially increasing vulnerability to burnout under prolonged occupational strain. Recognizing and utilizing the inherent strengths associated with these personality traits in the workplace can foster a more supportive and adaptive environment, reducing the risk of burnout among employees.

Limitations

The cross-sectional design limits our ability to infer causality between personality traits and burnout. Furthermore, our reliance on self-report measures may introduce bias. Future longitudinal studies are needed to explore these relationships over time and to assess the impact of interventions aimed at reducing burnout among medical doctors. Additionally, the use of online data collection may have influenced sample representativeness, as participation depended on voluntary response and access to digital platforms, introducing the possibility of selection bias.

CONCLUSION

This study contributes to our understanding of burnout among physicians and underscores the multifaceted nature of this phenomenon. Addressing burnout requires a holistic approach that considers not only work-related factors but also individual characteristics and psychosocial support systems. Future research could explore additional factors contributing to burnout and evaluate the effectiveness of targeted interventions in mitigating burnout risk among healthcare professionals.

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Table 1. Sociodemographic characteristics of the sample

Variable	Category	N	%
Marital status	Divorced	15	4.9
	Single	53	17.4
	Married	149	49
	In a relationship	86	28.3
	Widowed	1	0.3
Number of children	Three or more children	7	2.3
	Two children	67	22
	One child	59	19.4
	No children	171	56.3
Place of employment	Primary healthcare institution	70	23
	Secondary healthcare institution	60	19.7
	Tertiary healthcare institution	174	57.2
Sector of employment	Public sector	252	82.9
	Private sector	26	8.6
	Public and private sector	26	8.6
Employment in the territory	Republic of Serbia	289	95.1
	Bosnia and Herzegovina	8	2.6
	Montenegro	2	0.7
	Croatia	1	0.3
	Germany	4	1.3
Specialization	No specialization (general practitioner)	42	13.8
	Currently undergoing specialization	149	49
	Completed specialization	113	37.2
Communication skills training	Yes	86	28.3
	No	218	71.7
Do you feel you have enough time for reliable diagnosis and/or treatment of patients	Yes	134	44.1
	No	170	55.9
Personal psychotherapy in the last 6 months	Yes	47	15.5
	No	257	84.5

Table 2. Medical specialties of participants

Specialty	N	%
Anesthesiology, reanimatology, and intensive care	26	10
Anesthesiology, reanimatology, and intensive care, clinical pharmacology	1	0.4
Dermatovenereology	4	1.5
Pediatric surgery	4	1.5
Child and adolescent psychiatry	1	0.4
Pediatric neurology	1	0.4
Epidemiology	5	1.9
Physical medicine and rehabilitation	16	6.2
Gynecology and obstetrics	5	1.9
Hygiene	4	1.5
Infectious diseases	2	0.8
Internal medicine	58	22.3
Internal oncology	1	0.4
Public health	1	0.4
Clinical biochemistry	5	1.9
Clinical pharmacology	2	0.8
Medical microbiology	1	0.4
Neurosurgery	1	0.4
Neurology	5	1.9
Ophthalmology	11	4.2
General surgery	1	0.4
General surgery, abdominal surgery	1	0.4
general medicine	7	2.7
Orthopedic surgery and traumatology	4	1.5
Orthopedic surgery and traumatology, pediatric surgery	1	0.4
Otorhinolaryngology	5	1.9
Pathology	1	0.4
Pediatrics	31	11.9
Pediatrics, pediatric neurology	1	0.4
Plastic, reconstructive, and aesthetic surgery	3	1.2
Psychiatry	28	10.8
Radiation oncology	7	2.7
Radiology	6	2.3
Social medicine	2	0.8
Sports medicine	1	0.4
Emergency medicine	3	1.2
Urology	3	1.2
Vascular surgery	1	0.4

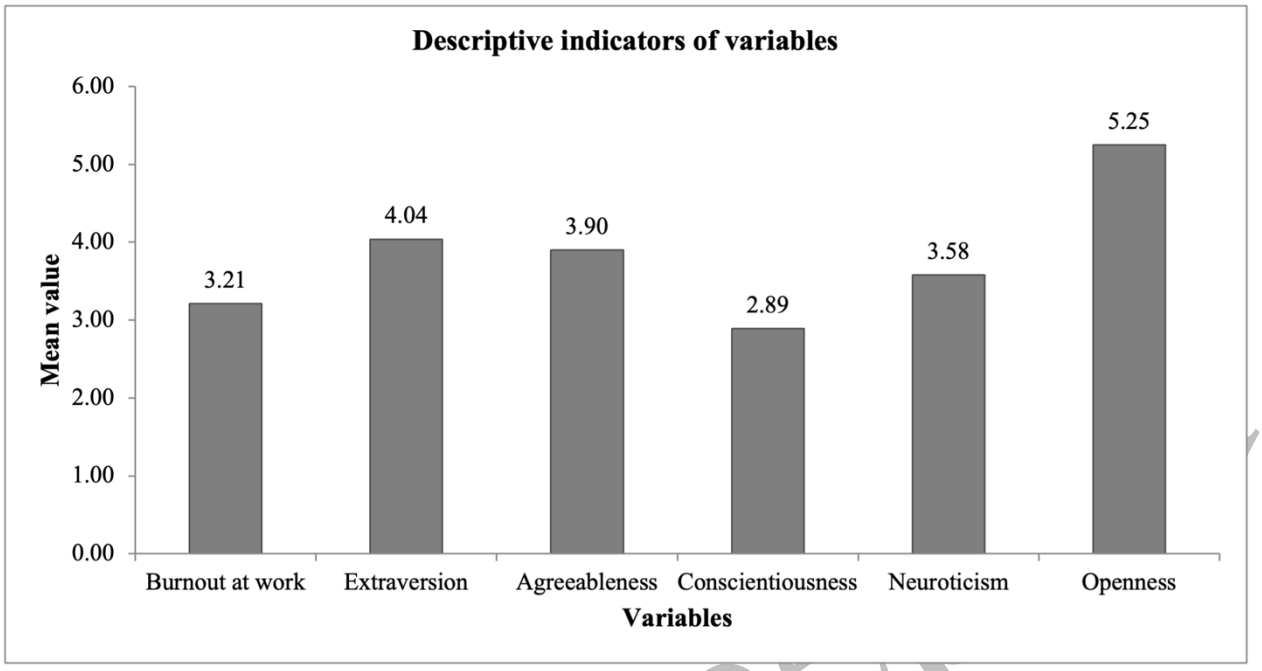

Figure 1. Descriptive indicators of variables

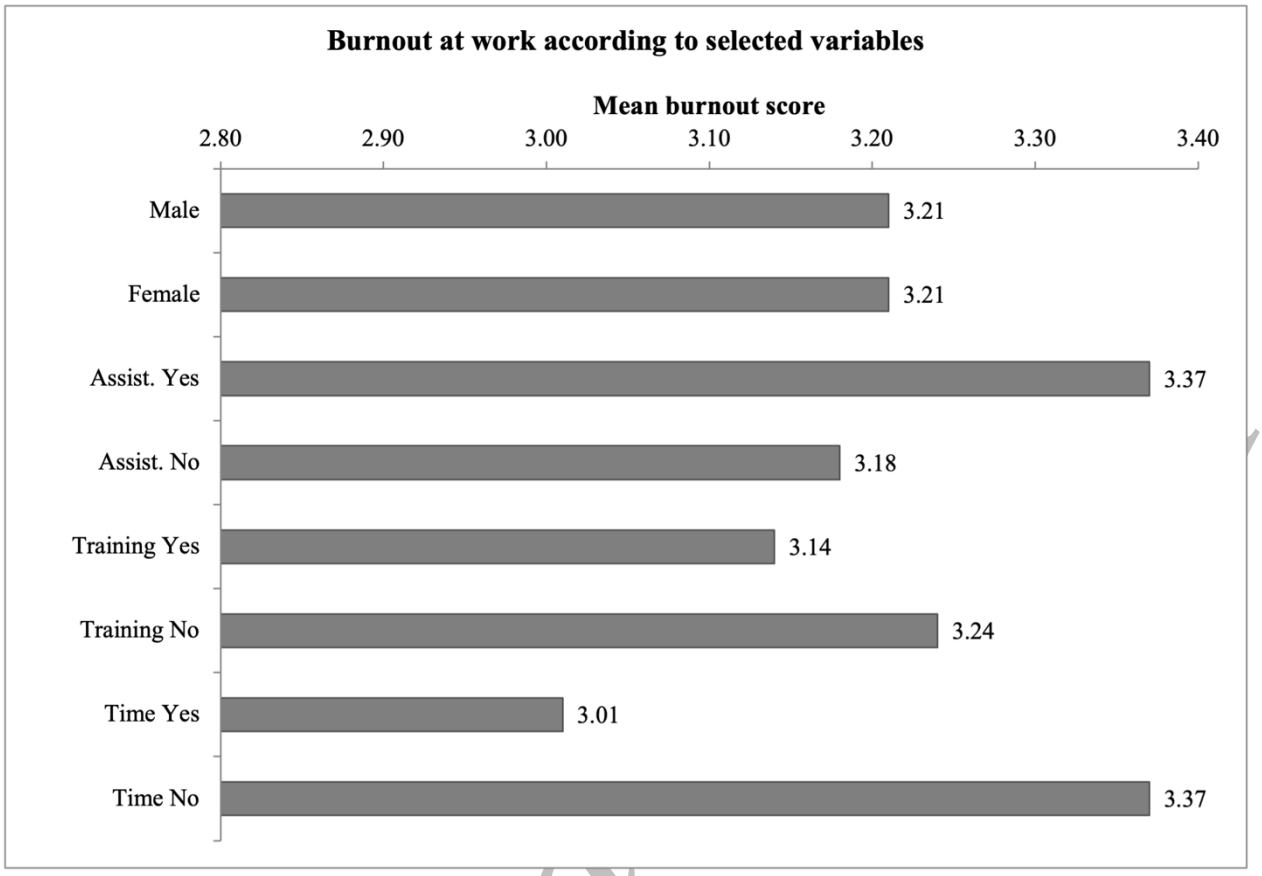

Figure 2. Burnout at work according to selected variables (t-test);

Assist; – seeking psychological assistance; Training – communication skills training; Time – perception of having enough time for patients

Table 3. Multiple regression analysis predicting burnout at work

Predictor	B	β	p
Extraversion	-0.2285	-0.2433	0.003
Agreeableness	0.0475	0.0531	0.498
Conscientiousness	0.1892	0.2146	0.002
Neuroticism	-0.0216	-0.0269	0.747
Openness	0.1401	0.1222	0.024

B – unstandardized regression coefficient; β – standardized regression coefficient

