



# Evaluation of Psychosocial Work Environment among Healthcare Professionals in Cardiac Care Units

Ralitsa Raycheva<sup>1</sup>, Pavlina Pavlova<sup>2</sup>, Rositsa Dimova<sup>2</sup>

<sup>1</sup> Department of Social Medicine and Public Health, Faculty of Public Health, Medical University of Plovdiv, Plovdiv, Bulgaria

<sup>2</sup> Department of Health Management and Health Economics, Faculty of Public Health, Medical University of Plovdiv, Plovdiv, Bulgaria

**Corresponding author:** Ralitsa Raycheva, Department of Social Medicine and Public Health, Faculty of Public Health, Medical University of Plovdiv, 15A Vassil Aprilov Blvd., 4002 Plovdiv, Bulgaria; Email: dirdriem@gmail.com; Tel.: +359 899 965 439

**Received:** 9 July 2024 ♦ **Accepted:** 23 October 2024 ♦ **Published:** 31 December 2024

**Citation:** Raycheva R, Pavlova P, Dimova R. Evaluation of psychosocial work environment among healthcare professionals in cardiac care units. *Folia Med (Plovdiv)* 2024;66(6):884-894. doi: 10.3897/folmed.66.e131663.

## Abstract

**Introduction:** Modern healthcare organizations and medical institutions depend on several factors, including the psychological environment as part of organizational culture. The psychological climate is multifaceted and difficult to quantify. The majority of scientific researchers agree that a good psychological climate supports teamwork, good communication, and a willingness to disclose errors and adverse events.

**Aim:** The objective of the study is to test a comprehensive and theory-based psychosocial work environment questionnaire and analyze the psychosocial climate among healthcare professionals in cardiac care units.

**Material and methods:** A survey-based cross-sectional study was done from November 2022 to March 2023 to analyze the psychological climate of cardiac ward professionals in South-Central Bulgarian hospitals. The study used the Bulgarian version of Koys and DeCotiis' Inductive Measures of Psychological Climate (IMPC) questionnaire.

**Results:** The survey included 273 participants, 75.1% of whom were women (n=205). The respondents' median age was 46, ranging from 35 to 54. They included 35.2% (n=96) with over 21 years of hospital experience. The highest proportion of in-hospital experience in a present hospital facility / present hospital unit was in the category 1 to 5 years – 27.5% (n=74) / 27.5% (n=74). The respondents were mostly registered nurses (40.3%, n=110). Specialist doctors were second at 23.8% (n=65), followed by paramedics at 14.7% (n=40), fellow doctors at 11.7% (n=32), and technical/medical personnel at 7.3% (n=20). Our study defines the psychological climate in cardiac units as having low pressure, moderate autonomy, recognition, and innovation, and high levels of trust, cohesion, support, and fairness.

**Conclusion:** The study focused on cardiac units, necessitating tailored approaches to address concerns across other wards. Establishing transparent and secure healthcare cultures, valuing employee input, and improving the psychological environment requires stakeholder collaboration.

## Keywords

cardiological wards, job satisfaction, medical personnel, psychological climate, work engagement

## INTRODUCTION

The effectiveness of modern healthcare organizations and medical institutions relies on various elements, one of which is the psychological climate as a component of organizational culture.<sup>[1-3]</sup> In specialized scientific literature, terms such as psychological climate, work microclimate, social climate, organizational climate, socio-psychological climate, safety climate, and positive climate in the organization are used interchangeably in the fields of organizational and work psychology, organizational behavior, and management theory.<sup>[4]</sup> The terms “work psychoclimate,” “psychosocial climate,” “professional psychoclimate,” and “organizational psychoclimate” are used equally in both domestic and international literature to refer to the working environment.<sup>[5,6]</sup>

Psychological climate is a complex and multidimensional entity, making it challenging to assess.<sup>[4,7]</sup> As per the majority of researchers in the scientific field being studied, a good psychological climate is characterized by a working environment that fosters mutual trust among team members, effective communication, and a willingness to share errors or adverse events.<sup>[8-11]</sup>

Multiple studies, conducted both domestically and internationally, have demonstrated that individuals employed in the healthcare industry are susceptible to negative influences from their work environment. These influences include high demands and professional responsibilities, a heavy workload consisting of 12-hour shifts, altered and night work schedules, a substantial amount of work with a limited number of staff members, and exposure to hazardous biological agents and infectious microorganisms.<sup>[12-15]</sup>

Some authors extensively examine the significance and function of stress as a mediator of psychosocial climate, which serves as a predictor of workplace injuries, errors, and other related factors.<sup>[16]</sup> Within the framework of safety climate theory, elevated job expectations and the existence of stress present a peril or hazard to psychological well-being, particularly in the healthcare sector. Insufficient levels of a secure psychological environment are seen as an indicator of psychological issues, accidents, and injuries.<sup>[16]</sup>

Authors suggest that stressors encompass various circumstances and aspects, including physical (somatic, physiological), psychological, and behavioral elements, which serve as the root cause of professional stress.<sup>[17]</sup> These factors have the potential to pose a threat to both the well-being of healthcare workers and the safety and health of patients.<sup>[18,19]</sup>

Research conducted in several nations has demonstrated that employees' health and well-being are jeopardized when they encounter excessive job expectations without adequate resources to handle these needs.<sup>[20-22]</sup> Research has also revealed that healthcare personnel who experience chronic pressures demonstrate a notable decline in the caliber and efficiency of their work.

Based on the national survey on working conditions in Bulgaria, more than 57% of individuals employed in the

healthcare industry perceive their health and safety to be in jeopardy while on the job.<sup>[23]</sup> Bulgarian authors also study in detail the influence of some psychosocial risk factors on the working climate, productivity and motivation of employees. Among them, with the greatest importance on the productivity and quality of work, the following stand out: the high demands of the work; increased management control over their work; indirect relations with the supervisor; ambiguities about the individual's role; poor social relationships at work; unsatisfactory management practices; poor physical working environment.<sup>[5,23-25]</sup>

Performing several tasks at the same time while following strict procedures is a particularly common phenomenon in emergency and intensive care units, cardiology, etc., where health personnel may experience fear of committing a medical error and possible legal consequences.<sup>[26]</sup>

In addition, health care work is also characterized as emotionally demanding or exhausting.<sup>[5,17,27]</sup> According to data from ESENER, nurses' work with terminally and critically ill patients is considered one of the most stressful aspects of nursing work.<sup>[28]</sup>

## AIM

The objective of the study was to test a comprehensive and theory-based psychosocial work environment questionnaire and analyze the psychosocial climate among healthcare professionals in cardiac care units.

## MATERIALS AND METHODS

### Study design

A survey-based cross-sectional study was conducted to assess the psychological climate of medical specialists working in hospital care facilities. The study utilized the Bulgarian version of the Inductive Measures of Psychological Climate (IMPC) questionnaire, developed by Koys and DeCotiis.<sup>[29]</sup> The sample was generated using convenience sampling and the “snowball” sampling techniques.

The study received approval from the Research Ethics Committee of the Medical University of Plovdiv under reference number #6/05.10.2023.

### Setting

This study examines the psychological climate at cardiac units and wards located in the South-Central Region of Bulgaria. The region contains four administrative districts: Plovdiv, Pazardzhik, Smolyan, and Haskovo. There are a total of 14 medical facilities that provide inpatient care. Specifically, there are 9 hospital care facilities in the Plovdiv region, 3 hospital care facilities in Pazardzhik, 1 hospital care facility in Smolyan, and 1 hospital care facility in

Haskovo. More precisely, in the Plovdiv region, there are a total of 7 hospital care facilities situated in the city of Plovdiv and there is 1 hospital care facility each in Asenovgrad and Parvomai. A total of 273 personnel, who are medical specialists from 4 out of the 28 administrative districts, participated in the empirical investigation.

### Timeframe of the study

The study was conducted from November 2022 to March 2023.

### Sociological methodology – Individual questionnaire

Anonymous survey was conducted using the Bulgarian version of the Inductive Measures of Psychological Climate (IMPC). The documents were disseminated via mail in four administrative regions – Plovdiv, Pazardzhik, Smolyan, and Haskovo – within the South-Central Region of the Republic of Bulgaria. The study was conducted in 14 cardiac units and words of hospital care facilities, with the help of executive directors and general managers from these organizations. A total of 273 healthcare professionals and personnel participated in the study on a voluntary and anonymous basis.

### Psychological climate measurement tool

Koys and DeCotiis<sup>[29]</sup> identified multiple aspects that influence the psychological climate within an organization. The psychological climate mostly relies on employees' impression of their work and the company, which is shaped by their own experience within the organization. The approach involves utilizing a five-point Likert-type scale comprising of 40 items that are summarized into 8 dimensions. The answer selections span from 'a' to 'e', where 'a' signifies 'definitely false' and 'e' signifies 'definitely true'. The items are allocated to eight psychological climate scales, namely:

1. Autonomy (items 1-5)
2. Cohesion (items 6-10)
3. Trust (items 11-15)
4. Pressure (items 16-20)
5. Support (items 21-25)
6. Recognition (items 26-30)
7. Fairness (items 31-35)
8. Innovation (items 36-40)

Autonomy refers to the degree to which employees have the ability to structure their work and define their roles and responsibilities. Cohesion can be defined as the interconnectedness and harmonious interactions among coworkers, characterized by cooperation, friendliness, affection, sociability, absence of conflict, and equality in rank. Trust can be expressed by managers who demonstrate sensitivity and believe in their leaders, as well as by their transparency and warmth instead of aloofness. Pressure refers to the collective job stress resulting from factors such as one's role, workload, role ambiguity, and conflict. Support encompass-

es the overall assistance that employees receive from their superiors. Recognition includes both positive feedback, such as praise and opportunities for advancement, as well as negative feedback, such as criticism and consequences for poor performance. Fairness encompasses the justness of the system for distributing rewards, the clarity of the procedures for promoting individuals, and the openness of the policies, among other factors. Innovation pertains to the capacity of the system to both incentivize and regulate employees. An organizational climate that prioritizes the well-being and satisfaction of its employees contributes to the establishment of a favorable psychological environment within the organization.

### Statistical analysis

The quantitative data is displayed as the arithmetic mean±standard deviation (mean±SD) or as the median and interquartile range (median, IQR), depending on the distribution of the variables (determined by the Kolmogorov-Smirnov test). The categorical variables are summarized using absolute values (n) and relative proportions (%). Cronbach's alpha is employed to assess the internal consistency of a set of Likert items that comprise a scale. Item-total correlation is calculated to indicate how correlated the corresponding item is to the total of all the items representing the subscale. If all the items consistently represent the construct, one would expect these item-total correlations to be positive and of at least moderate magnitude (i.e., at least 0.40). A p-value less than 0.05 (two-tailed test) was considered statistically significant for all tests. Statistical analysis was performed using SPSS, version 26.0 (IBM corp., NY, USA).

## RESULTS

### Demographic characteristics

A total of 273 individuals took part in the survey, with women comprising 75.1% (n=205) of the respondents. **Fig. 1** illustrates the professional characteristics of the participants.

The respondents had a median age of 46 years, with a range of 35 years to 54 years. Among them, 35.2% (n=96) had over 21 years of in-hospital experience, while 20.5% (n=56) had 1 to 5 years. Regarding in-hospital experience in a present (1) hospital facility and (2) hospital unit, the observed frequencies were again in these categories: (1) from 1 to 5 years – 27.5% (n=74), followed by over 21 years – 20.5% (n=56); (2) from 1 to 5 years – 27.5% (n=74), followed by over 21 years – 22.7% (n=62), respectively. The categories with the highest proportion of in-hospital working hours per week were those ranging from 41 to 60 hrs/wk, accounting for 45.5% (n=124), followed by the categories from 20 to 40 hrs/wk, which made up 39.2% (n=107). The professional qualification of the respondents is primar-

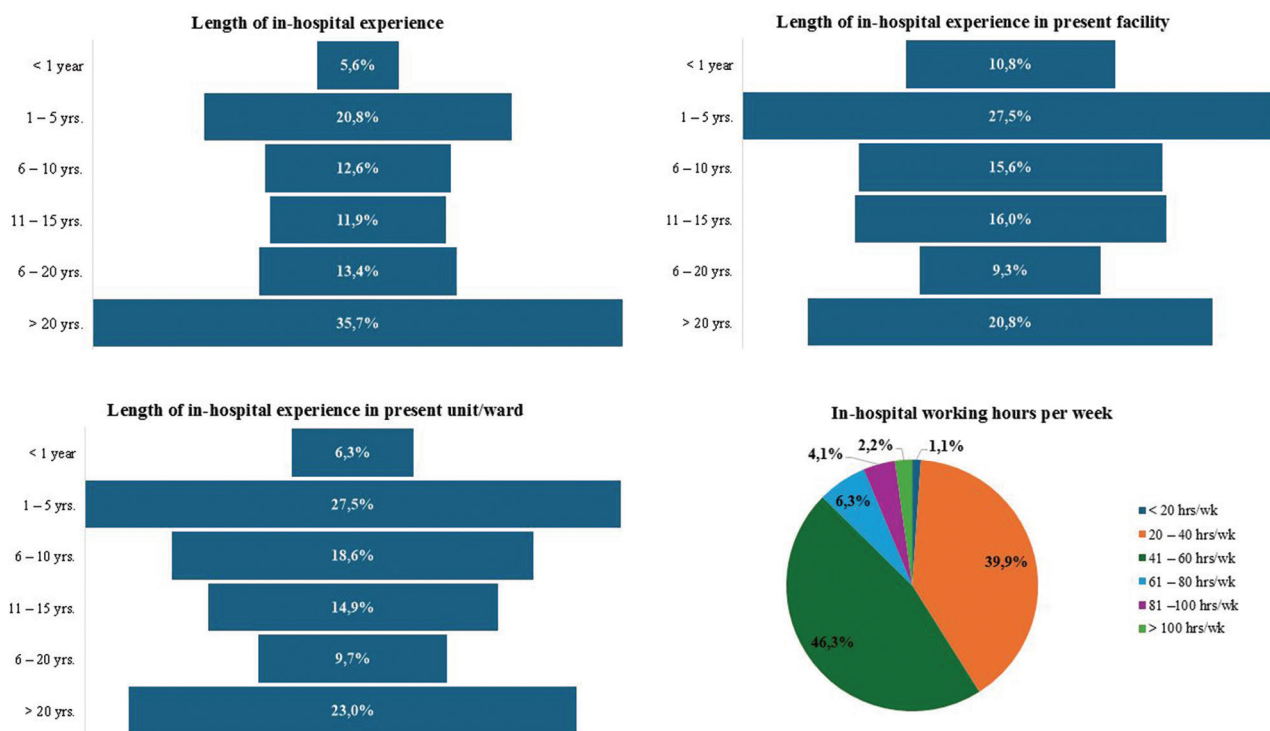


Figure 1. Professional characteristics of the respondents.

ily composed of registered nurses, accounting for 40.3% (n=110) of the total. Specialist doctors made up the second highest percentage at 23.8% (n=65), followed by paramedics at 14.7% (n=40), fellow-doctors at 11.7% (n=32), technical/medical staff at 7.3% (n=20), and those who did not provide an answer at 2.2% (n=6). With respect to hospital

ownership, 75.1% (n=205) of the survey respondents were employed in a hospital that is owned by the state or municipality.

Fig. 2 illustrates the distribution of respondents by region, with the largest proportion coming from Plovdiv at 69.3% (n=189).

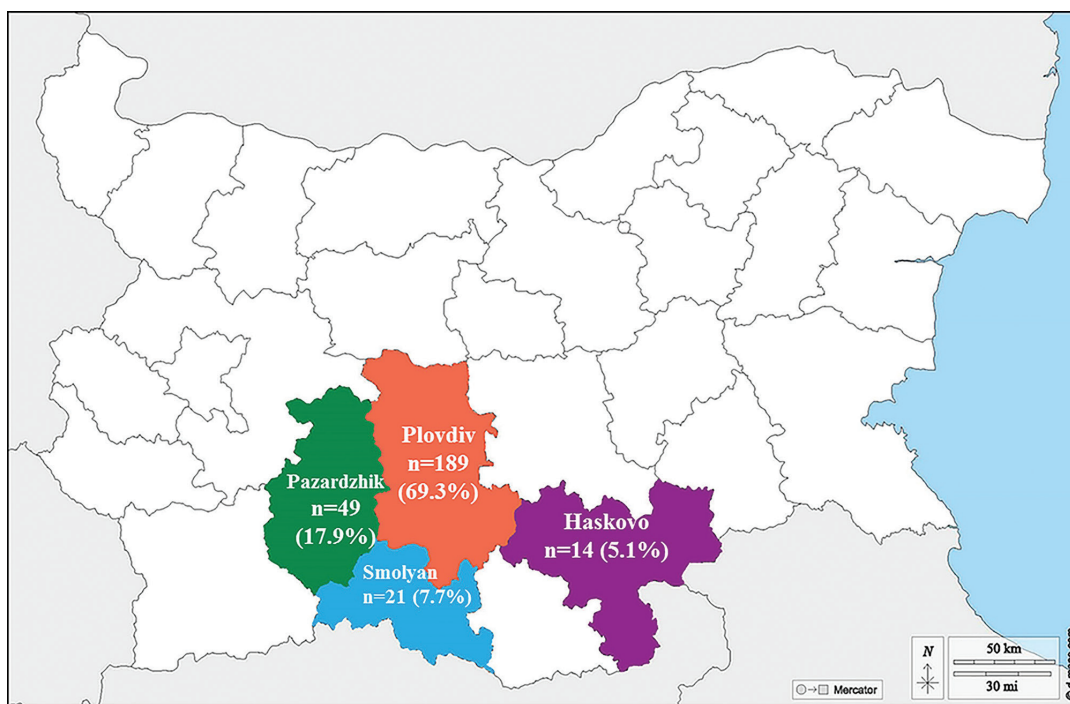


Figure 2. Geographical distribution of respondents by region.

## Inductive Measures of Psychological Climate (IMPC)

The IMPC includes 8 scales that measure the level of social cohesion, trust and support, as well as predictors of organizational culture and management style, such as autonomy, innovation, fairness, recognition, and pressure. The internal consistency of the measures utilized was evaluated as a comprehensive indicator of construct validity (Table 1). The cohesion, trust, support, and innovation scales exhibited the highest level of reliability, while pressure demonstrated the lowest level.

Item-total correlation was calculated to indicate how correlated the corresponding item was to the total of all the items representing the subscale. All the items consistently represented the construct, as evidenced by positive item-total correlations that exceeded 0.40 in magnitude, with the exception of the Pressure dimension (Table 2).

**Table 2.** Item-total subscale correlation

Dimension and Item summary	Number of items n	Item-total subscale correlation *
Autonomy	5	0.39 – 0.52
Cohesion	5	0.58 – 0.70
Trust	5	0.67 – 0.78
Pressure	5	0.13 – -0.42
Support	5	0.74 – 0.81
Recognition	5	0.63 – 0.81
Fairness	5	0.62 – 0.82
Innovation	5	0.73 – 0.79

\* $p < 0.01$

In the subscales of the Autonomy dimension, over half of the participants affirmed that they independently decided how to plan, organize, and perform their day-to-day work activities; they also made the majority of decisions that had an impact on how their job was carried out. Less than half of them made their own decisions on what they must accomplish to finish their work-related tasks.

According to the Cohesion dimension's subscales, over 60% of respondents said that all of the organization's staff members assisted, attempted to understand, and showed interest in one another. Less than half of the respondents said they felt they had a lot in common with their coworkers and that there was a strong sense of "team spirit" in the company.

About 60% of respondents had positive impressions of their supervisor according to the sub-scales of the Trust dimension: 58.3% trusted that their supervisor would use discretion to keep information shared private; 68.8% believed that their superior was honest; 65.6% believed that they can be open and honest with their boss; 67.8% affirmed that

promises made to them in advance had been fulfilled; and 63.7% would trust their supervisor's advice.

The neutral response, which was neither true nor untrue, had the biggest relative share (about a third and above) in the sub-scales of the Pressure dimension for all queries. Of the respondents, 40.7% reported being overly committed at work, and 37.7% thought their daily lives were dynamic. Due to the likelihood of receiving a call regarding a work-related issue, more than 30% of respondents admitted to feeling restless at home. This provided the impression that there was never a day off and led to an excessive number of professionally burned-out employees as a result of the demands of the job.

In the sub-scales of the Support dimension, more than 60% of the respondents relied on their manager when necessary, and more than 50% felt his unreserved support and the freedom to learn from their mistakes. Nearly 60% were of the opinion that their supervisor helped them in their professional growth. With the same relative share were the respondents who shared about facilitated communication with their supervisor regarding problematic work-related situations.

In the sub-scales of the Recognition dimension, nearly 50% of the survey participants felt encouraged when they did well in their professional tasks and were of the opinion that their supervisor recognized their strengths and celebrates them, and nearly 40% had self-esteem to be set as an example to others for quality work performed. About 60% of respondents said that their supervisor quickly noticed good work, and a third testified to low levels of recognition because their work was only commented on when they make a mistake.

More than 60% of responders to the Fairness dimension's subscales depended on their employer treating them fairly and giving them opportunity for growth; they also felt that their superiors would be loyal to them and that their objectives were legitimate. Roughly half of the workforce believed that their boss did not show preference to specific workers and that if an employee must be let go, it would probably be for valid, significant reasons.

Just over 50% of respondents indicated on the Innovation dimension's subscales that their supervisor had encouraged them to pursue their ideas. Less than 50% of respondents believed that their manager was satisfied when creative solutions were used to carry out routine tasks; they got encouragement and support from their manager to advance and enhance the approaches suggested by their manager; they were challenged to come up with fresh answers to age-old issues, and their efforts were acknowledged and appreciated.

## DISCUSSION

The present study confirmed that the presence of incentives provided by the organization is a crucial factor in creating a favorable organizational environment.<sup>[30]</sup> This, in turn,

**Table 1.** Internal consistency (Cronbach  $\alpha$ ) of the IMPC

Dimension and Item summary	Number of items	Mean $\pm$ SD	Cronbach $\alpha$
<b>IMPC</b>	<b>40</b>	<b>139.74<math>\pm</math>26.63</b>	<b>0.857</b>
<b>Autonomy</b>	<b>5</b>	<b>16.85<math>\pm</math>4.97</b>	<b>0.893</b>
1. I make most of the decisions that affect the way my job is performed.		3.33 $\pm$ 1.20	
2. I determine my own work procedure.		3.43 $\pm$ 1.89	
3. I schedule my own work activities.		3.32 $\pm$ 1.19	
4. I set the performance standards for my job.		3.32 $\pm$ 1.21	
5. I organize my work as I see best.		3.45 $\pm$ 1.15	
<b>Cohesion</b>	<b>5</b>	<b>17.71<math>\pm</math>4.67</b>	<b>0.912</b>
6. (Company name) people pitch in to help each other out.		3.74 $\pm$ 1.06	
7. (Company name) people tend to get along with each other.		3.70 $\pm$ 1.06	
8. (Company name) people take a personal interest in one another.		3.46 $\pm$ 1.11	
9. There is a lot of "team spirit" among (company name) people.		3.38 $\pm$ 1.13	
10. I feel like I have a lot in common with the (company name) people I know.		3.42 $\pm$ 1.07	
<b>Trust</b>	<b>5</b>	<b>18.93<math>\pm</math>5.07</b>	<b>0.916</b>
11. I can count on my boss to keep the things I tell him confidential.		3.59 $\pm$ 1.21	
12. My boss has a lot of personal integrity.		3.92 $\pm$ 1.16	
13. My boss is the kind of person I can level with.		3.82 $\pm$ 1.18	
14. My boss follows through on his commitments to me.		3.86 $\pm$ 1.14	
15. My boss is not likely to give me bad advice.		3.73 $\pm$ 1.17	
<b>Pressure</b>	<b>5</b>	<b>14.81<math>\pm</math>4.19</b>	<b>0.706</b>
16. I have too much work and too little time to do it in.		3.22 $\pm$ 1.11	
17. (Company name) is a relaxed place to work (reversed).		2.82 $\pm$ 1.20	
18. At home, I sometimes dread hearing the telephone ring because it might be someone calling about a job-related problem.		2.82 $\pm$ 1.33	
19. I feel like I never have a day off.		3.00 $\pm$ 1.26	
<b>Support</b>	<b>5</b>	<b>18.81<math>\pm</math>4.87</b>	<b>0.921</b>
21. I can count on my boss to help me when I need it.		3.95 $\pm$ 1.08	
22. My boss is interested in me getting ahead in the company.		3.67 $\pm$ 1.12	
23. My boss is behind me 100%.		3.70 $\pm$ 1.17	
24. My boss is easy to talk to about job-related problems.		3.86 $\pm$ 1.20	
25. My boss backs me up and lets me learn from my mistakes.		3.63 $\pm$ 1.10	
<b>Recognition</b>	<b>5</b>	<b>17.19<math>\pm</math>4.09</b>	<b>0.772</b>
26. I can count on a pat on the back when I perform well.		3.41 $\pm$ 1.16	
27. The only time I hear about my performance is when I screw up (reversed).		3.36 $\pm$ 1.10	
28. My boss knows what my strengths are and lets me know it.		3.44 $\pm$ 1.16	
29. My boss is quick to recognize good performance.		3.70 $\pm$ 1.11	
30. My boss uses me as an example of what to do.		3.27 $\pm$ 1.13	
<b>Fairness</b>	<b>5</b>	<b>18.14<math>\pm</math>4.60</b>	<b>0.889</b>
31. I can count on a fair shake from my boss.		3.71 $\pm$ 1.14	
32. The objectives my boss sets for my job are reasonable.		3.70 $\pm$ 1.10	
33. My boss is not likely to give me a "greasy meal."		3.79 $\pm$ 1.01	
34. My boss does not play favorites.		3.37 $\pm$ 1.18	
35. If my boss terminates someone, the person probably deserved it.		3.57 $\pm$ 1.08	
<b>Innovation</b>	<b>5</b>	<b>17.33<math>\pm</math>5.05</b>	<b>0.938</b>
36. My boss encourages me to develop my ideas.		3.51 $\pm$ 1.16	
37. My boss likes me to try new ways of doing my job.		3.54 $\pm$ 1.13	
38. My boss encourages me to improve on his methods.		3.49 $\pm$ 1.14	
39. My boss encourages me to find new ways around old problems.		3.49 $\pm$ 1.08	
40. My boss "talks up" new ways of doing things.		3.42 $\pm$ 1.14	

leads to higher job satisfaction among employees. This can be attributed to a supervisor providing support and encouragement to staff, allowing them to participate in clinical decision-making, recognizing their contributions, and granting them autonomy in performing their job duties. Furthermore, this might be credited to the supervisor cultivating a work atmosphere that is characterized by challenges. The study's findings were consistent with those of Nehad and Mohamed<sup>[30]</sup>, who found that a majority of employees expressed a desire for a committee of directors to provide assistance and enable their participation in decision-making. It has been observed that job satisfaction is crucial in the workplace, and its absence typically results in lethargy and decreased organizational commitment. Job dissatisfaction is a reliable indicator of job turnover.<sup>[30]</sup>

Tair's<sup>[31]</sup> research findings indicate that the psychological climate of an organization has a substantial impact on the team's commitment to task completion, the resolution of conflicts, and the trust in the team. In another empirical study<sup>[8]</sup>, the same author discovered that the presence of a positive or supportive psychological climate, which is characterized by constructive feedback and mutual assistance among employees, significantly enhances their commitment, enthusiasm, and dedication to their work. Our research also identifies a connection between engagement and supportive psychoclimate, as well as mutual support in the workplace – slightly less than 50% of the participants expressed a sense of mutual respect and shared interests with their colleagues, indicating a strong “team spirit” within the organization. Furthermore, a study<sup>[32]</sup> conducted to ascertain the characteristics associated with job satisfaction/dissatisfaction at a cardiology unit of a hospital in Sao Paulo, revealed that one of the key elements contributing to job satisfaction was the nature of the work itself and the collaborative environment within a team. The combination of findings in the questionnaire domains supports the conceptual premise present in the Baltes et al.<sup>[33]</sup> study that workers who feel good about the work environment for both themselves and other members of the organization had greater levels of job satisfaction.

Our findings reflect those of Weziak-Bialowolska et al.<sup>[34]</sup> and offer a clear explanation for leaders and managers who want to enhance organizational results by establishing and nurturing a work environment that is seen as secure, compassionate, trustworthy, respectful, and equitable. Managers may enhance job engagement and performance by prioritizing employees' sense of safety, respect, and caring. Moreover, as a result of the feedback loops, managers can anticipate that cultivating a psychological atmosphere of compassion in workplaces that prioritize high performance and job quality may provide significantly greater outcomes compared to settings with low performance.<sup>[34]</sup> In a study of Nehad et al.<sup>[30]</sup>, the analysis of the study sample demonstrated a pessimistic view of the efficiency of the management. The authors attributed the failure of nurse managers to adequately communicate the rationales for staff criticism or blame. Additional reasoning is attributed to the nurse

manager's failure to take into account the personal issues faced by their employees.<sup>[30]</sup>

There are similarities between the results obtained in Pressure domain in our study and those described by Zutautiene et al.<sup>[35]</sup> that reveal the psychosocial work environment is very unfavorable among the physicians under investigation – approximately 25% of them were categorized as having low job skill discretion and decision-making authority, and they also reported weak support from their supervisors; around 33% of participants reported experiencing poor decision latitude, low co-worker support, high job demands, and feelings of insecurity in their workplace. Additionally, the stress evaluation analysis demonstrates that the highest average scale scores were observed for general stress. The frequencies of low and high stress levels indicated that approximately half of the participants were classified as experiencing high levels of stress in all three stress evaluation scales. The authors indicate that there is a correlation between the psychosocial work environment characteristics that were examined, and the perceived work-related psychosocial stress and strain experienced by hospital physicians.<sup>[35]</sup> Our research further supports the idea of Weziak-Bialowolska et al.<sup>[34]</sup> that having a favorable perception of the psychological climate has a positive impact on some work outcomes, including self-reported productivity, self-reported work quality, and work engagement.

Research<sup>[36]</sup> has shown that improving individual and organizational performance greatly depends on assessing and managing the organizational climate in health care institutions. Another study<sup>[40]</sup> has demonstrated that there is a beneficial relationship between psychosocial safety climate and job engagement, whereas there is an adverse relationship between psychosocial safety environment and working compulsively. Psychosocial safety climate is commonly seen as an organizational factor that can assist employees in mitigating job demands and enhancing job resources. It facilitates the effective management and distribution of demands, enabling workers to attain their work goals. The study emphasized that organizations that have a strong psychological safety climate are able to provide suitable working conditions by offering support and procedural fairness, resulting in higher levels of participation.<sup>[37-39]</sup> However, it suggests that a corporation can establish such a working environment by effectively overseeing the task and resources allocated to the individual.<sup>[40]</sup>

In an effort to increase their productivity and the caliber of the services they provide, health care facilities have recently begun conducting organizational climate assessments more frequently as a result of pressure from shifting legal requirements and socioeconomic conditions. This is significant, but much more so is ensuring that the employees involved in the assessment process understand the value of their productive participation in this study and its possible advantages.<sup>[36]</sup> A negative psychosocial environment results in several issues that simultaneously diminish the institution's reputation and the quality of work.<sup>[41,42]</sup>

An advantageous psychosocial environment results in improved feedback from staff and higher patient satisfaction with the institution's healthcare services.

Finally, if the results of the curvilinear analysis of Dawson et al.<sup>[43]</sup> are correct, it suggests that there may be a risk associated not only with having generally weak climates, but also with having excessively strong climates for emphasizing means integration in large institutions like hospitals. A highly robust climate is expected to emerge when work practices are tightly regulated from the uppermost level of an organization or a "strong culture" with unquestionable underlying beliefs, perhaps leading to adverse effects on long-term performance. The specific nature of these working practices seems to have little influence on the interaction between the linear and curvilinear impacts of climate strength and climate levels. However, what seems to matter is that there is a general consensus among the majority of individuals throughout the entire organization regarding the organizational climate. Greater success was shown in situations where there were moderately less intense environments – a circumstance that arises when different departments, wards, and teams possess a certain degree of independence to establish their own procedures. This is especially suitable in institutions like hospitals, where departments can vary significantly in the nature of their tasks. However, there is also a risk of insufficient control, as demonstrated by the negative results linked to extremely weak climates for the curvilinear effects. Allowing teams and departments to operate independently, without shared knowledge of the methods or objectives, can have detrimental consequences for the organization.<sup>[43]</sup>

There are contradictory findings in the research that examines the impact of organizational size on innovation. The findings of Imran et al.<sup>[44]</sup> reveal no substantial association between organizational size and creativity. The lack of significance of organizational size in this context may be attributed to the fact that larger companies tend to have a more rigid and bureaucratic structure, which hampers creativity. Large companies encounter challenges related to centralized decision-making, adherence to rules and regulations, and a hierarchical structure that can impede employee innovation and well-being. On the other hand, smaller entities, due to their uncomplicated hierarchical structure, are more capable of implementing employees' innovative ideas.<sup>[44]</sup> Generally, our findings support this concept – according to our survey participants, their manager expressed satisfaction when innovative methods were employed to complete regular tasks; they also received encouragement and support from their manager to develop and improve the proposed approaches; additionally, they were motivated to generate new solutions for long-standing problems, and their endeavors were recognized and valued.

Finally, the psychosocial consequences of the workplace on staff members at cardiac units can be significant, given the high-stress nature of the environment and the emotional weight of patient care. The key areas to consider are: 1) Emotional Stress and Burnout – cardiac care often involves

critical situations where staff must make quick, life-altering decisions, leading to chronic stress as well as prolonged exposure to high-stress situations can lead to burnout, characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment; 2) Compassion Fatigue – continuous exposure to patients with severe health issues can lead to compassion fatigue, where caregivers feel overwhelmed and emotionally drained; this fatigue can affect the quality of care provided, as staff may struggle to connect emotionally with patients; 3) Team Dynamics and Support Systems – strong teamwork can mitigate some negative psychosocial effects, promoting a sense of community and shared responsibility; conversely, a lack of communication and support can lead to feelings of isolation and decreased morale; 4) Job Satisfaction and Engagement – many staff members find fulfillment in helping patients recover, which can enhance job satisfaction; however, the emotional and physical demands can lead to disparities in job engagement, especially if support systems are lacking; 5) Work-Life Balance – the demands of cardiac units often require long shifts, making it challenging for staff to maintain a healthy work-life balance; strain on personal relationships and time for self-care can lead to additional stress and mental health issues; 6) Psychological Safety – in high-pressure environments, staff may fear repercussions for voicing concerns, leading to a culture of silence that can exacerbate stress and anxiety; a psychologically safe environment encourages staff to share concerns and seek help, promoting overall well-being; 7) Training and Preparedness – adequate training can help staff feel more competent and confident in handling emergencies, reducing anxiety and stress levels; Ongoing professional development can enhance staff resilience and adaptability to changing circumstances; 8) Coping Mechanisms – encouraging staff to engage in physical activity, mindfulness, or peer support groups can help mitigate stress; providing resources like counseling and stress management programs can support staff mental health. The psychosocial consequences of working in cardiac units are multifaceted, influencing both individual staff members and the overall work environment. Addressing these challenges through supportive leadership, effective communication, and mental health resources can promote a healthier workplace, ultimately benefiting both staff and patients.

## CONCLUSION

Our study defines the psychological climate in cardiac units as having low pressure, moderate autonomy, recognition, and innovation, and high levels of trust, cohesion, support, and fairness. The study specifically targeted cardiac units, hence requiring tailored approaches to tackle the distinct issues in different units or ward settings. Effective collaboration among stakeholders is essential for establishing transparent and secure healthcare cultures, prioritizing employee input, and ensuring continuous improvement of the psychological environment.

## Acknowledgements

The authors have no support to report.

## Funding

The authors have no funding to report.

## Competing Interests

The authors have declared that no competing interests exist.

## REFERENCES

- Williams LJ, Anderson SE. Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *J Manag* 1991; 17(3):601–17. doi: 10.1177/014920639101700305
- Zhu Y. Individual Behavior: In-role and Extra-role. *Int J Business Admin* 2013; 4(1):23–7.
- Francis H, Keegan A. The changing face of HRM: in search of balance. *Hum Resour Manag J* 2006; 16(3):231–49.
- Parker CP, Baltes BB, Young SA, et al. Relationships between psychological climate perceptions and work outcomes: a meta-analytic review. *J Organiz Behav* 2003; 24(4):389–416.
- Georgieva K. [Study of personal vulnerability to the syndrome of professional burnout and psychosocial stress among risk categories of professions]. (PhD Thesis). Medical University, Plovdiv, 2019 (Bulgarian).
- Toprak M, Karakuş M. Psychological climate in organizations: A systematic review. *Eur J Psychol Educ Res* 2018; 1(1):43–52.
- Guldenmund FW. The use of questionnaires in safety culture research - an evaluation. *Safety Sci* 2007; 45(6):723–43.
- Tair E. Organizational climate: Influence on negative and positive organizational behavior. In: Ragdovic-Markovic M, Farooq MS, Vujicic S., eds. *Organizational behavior and types of leadership styles and strategies in terms of globalization* (87-111). Compass Publishing, Newton Abbot, UK; 2017
- Cigularov KP, Chen PY, Rosecrance J. The effects of error management climate and safety communication on safety: A multi-level study. *Accid Anal Prev* 2010; 42(5):1498–506.
- Clarke S, Ward K. The role of leader influence tactics and safety climate in engaging employees' safety participation. *Risk analysis* 2006; 26(5):1175–85.
- Kath LM, Marks KM, Ranney J. Safety climate dimensions, leader-member exchange, and organizational support as predictors of upward safety communication in a sample of rail industry workers. *Safety Sci* 2010; 48(5):643–50.
- Singer S, Kitch BT, Rao SR, et al. An exploration of safety climate in nursing homes. *J Patient Safety* 2012; 8(3):104–24.
- Karasek R, Theorell T. *Healthy work: Stress, productivity, and the reconstruction of working life*. New York, NY: Basic Books; 1990.
- Hristov Zh. [Epidemiology of stress among doctors and teachers in the transition period]. [PhD dissertation]. Medical University, Sofia, 2004 (Bulgarian).
- Vasileva L. Profile of occupational stress in doctors and nurses. In *Collective Book: The challenges of stress*, Sofia, St Georgi Pobedonovets Publishing House of the Ministry of Education, 1998; 96–105.
- Zohar D. Thirty years of safety climate research: Reflections and future directions. *Accid Anal Prev* 2010; 42(5):1517–22.
- Barbosa MH, Sousa EM, Felix MM, et al. Patient safety climate in a hospital specialized in oncology. *Rev Eletrôn Enferm* 2015; 17(4):1–9.
- Griffin MA, Neal A. Perceptions of safety at work: a framework for linking safety climate to safety performance, knowledge, and motivation. *J Occup Health Psychol* 2000; 5(3):347.
- Prodanov M. [Psychological assessment of the main sources of occupational stress]. *Collection of scientific papers from the VIII National Congress of Psychology*, Sofia, 2017; 652-663 (Bulgarian).
- Abbe OO, Harvey CM, Ikuma LH, et al. Modeling the relationship between occupational stressors, psychosocial/physical symptoms and injuries in the construction industry. *Int Journal Industrial ergon* 2011; 41(2):106–17.
- Heijnis R. *Organizational Stress: A Review and Critique of Theory, Research, and Applications*. by Cooper CL, Dewe PJ, and O'Driscoll MP. Sage Publications, 2001, 282.
- Cox S, Flin R. Safety culture: Philosopher's stone or man of straw? *Work Stress* 1998; 12(3):189–201.
- Safety and health at work: a vision for sustainable prevention: XX World Congress on Safety and Health at Work, 2014: Global Forum for Prevention, 24-27 August 2014, Frankfurt, Germany/International Labour Office. Geneva: ILO, 2014.
- Ilieva S. [Values and work motivation]. Sofia: St Kliment Ohridski University, 2009 (Bulgarian).
- Tsenova B, Velkova D. [Psychosocial factors and stress in nurses]. *Problems of Hygiene* 1999; 1:23–31 (Bulgarian).
- Stehman CR, Clark RL, Purpura A, et al. Wellness: combating burnout and its consequences in emergency medicine. *West J Emerg Med* 2020; 21(3):555.
- Luiz RB, Simões AL, Barichello E, et al. Factors associated with the patient safety climate at a teaching hospital. *Revista Latino-Americana de Enfermagem* 2015; 23(5):880–7.
- European Survey of Enterprises on New and Emerging Risks (ESENER) results visualization – Safety and health at work – EU – OSHA [Internet]. Europa.eu. [cited 2024 Jul 9]. Available from: <https://visualisation.osha.europa.eu/esener/en>
- Koys DJ, DeCotiis TA. Inductive measures of psychological climate. *Human relations* 1991; 44(3):265–85.
- Nehad E, Mohamed E. Relationship between organizational climate and occupational safety and health for nurses. *Med J Cairo Univ* 2018; 86:129–35.
- Tair E. [Influence of psychological climate on perceptions of trust, commitment, and team conflict]. *Collection of reports from the International Scientific Conference "Leadership and Development of Human Resources"*. St Kliment Ohridski University, Sofia. 2019; 623–30 (Bulgarian).
- Federal Nursing Council (COFEN). [Nursing Atlas: nursing professionals by sex in Brazil]. [Internet]. Brasília; 2011, Gov.br. [cited 2024 Jul 9] (Spanish). Available from: <http://www.cofen.gov.br/wp-content/uploads/2012/03/pesquisaprofissionais.pdf>
- Baltes BB, Zhdanova LS, Parker CP. Psychological climate: A comparison of organizational and individual level referents. *Human relations* 2009; 62(5):669–700.
- Weziak-Bialowolska D, Bialowolski P, Leon C, et al. Psychological cli-

- mate for caring and work outcomes: A virtuous cycle. *Int J Environ Res Public Health* 2020; 17(19):7035.
35. Zutauiene R, Kaliniene G, Ustinaviciene R, et al. Prevalence of psychosocial work factors and stress and their associations with the physical and mental health of hospital physicians: A cross-sectional study in Lithuania. *Frontiers in Public Health* 2023; 11:1123736.
  36. Carlucci D, Schiuma G. Organizational climate as performance driver: health care workers' perception in a large hospital. *J Health Manag* 2014; 16(4):583–94.
  37. Idris MA, Dollard MF, Coward J, et al. Psychosocial safety climate: Conceptual distinctiveness and effect on job demands and worker psychological health. *Safety Sci* 2012; 50(1):19–28.
  38. Bakker AB, Demerouti E. Towards a model of work engagement. *Career Development International* 2008; 13(3):209–23.
  39. Griffin MA, Curcuruto M. Safety climate in organizations. *Annu Rev Organ Psychol Organ Behav* 2016; 3(1):191–212.
  40. Platania S, Morando M, Caruso A, et al. The effect of psychosocial safety climate on engagement and psychological distress: A multilevel study on the healthcare sector. *Safety* 2022; 8(3):62.
  41. Mathisen J, Nguyen TL, Jensen JH, et al. Reducing employee turnover in hospitals: estimating the effects of hypothetical improvements in the psychosocial work environment. *Scand J Work Environ Health* 2021; 47(6):456.
  42. Sturm H, Rieger MA, Martus P, et al, WorkSafeMed Consortium. Do perceived working conditions and patient safety culture correlate with objective workload and patient outcomes: A cross-sectional explorative study from a German university hospital. *PloS one*. 2019; 14(1):e0209487.
  43. Dawson JF, González-Romá V, Davis A, et al. Organizational climate and climate strength in UK hospitals. *Eur J Work Organiz Psychol* 2008; 17(1):89–111.
  44. Imran R, Saeed T, Anis-Ul-Haq M, et al.. Organizational climate as a predictor of innovative work behavior. *African J Bus Manag* 2010; 4(15):3337.

# Оценка психосоциальной рабочей среды среди медицинских работников в отделениях кардиологии

Ралица Райчева<sup>1</sup>, Павлина Павлова<sup>2</sup>, Росица Димова<sup>2</sup>

<sup>1</sup> Кафедра „Социальная медицина и общественное здравоохранение“, Факультет общественного здравоохранения, Медицинский университет – Пловдив, Пловдив, Болгария

<sup>2</sup> Кафедра „Менеджмент и экономика здравоохранения“, Факультет общественного здравоохранения, Медицинский университет – Пловдив, Пловдив, Болгария

**Адрес для корреспонденции:** Ралица Райчева, Кафедра „Социальная медицина и общественное здравоохранение“, Факультет общественного здравоохранения, Медицинский университет – Пловдив, бул. „Васил Априлов“ 15А, 4002 Пловдив, Болгария; Email: dirdriem@gmail.com; Тел.: +359 899 965 439

---

**Дата получения:** 9 июля 2024 г. ♦ **Дата приемки:** 23 октября 2024 г. ♦ **Дата публикации:** 31 декабря 2024 г.

---

**Образец цитирования:** Raycheva R, Pavlova P, Dimova R. Evaluation of psychosocial work environment among healthcare professionals in cardiac care units. Folia Med (Plovdiv) 2024;66(6):884-894. doi: 10.3897/folmed.66.e131663.

---

## Резюме

**Введение:** Современные организации здравоохранения и медицинские учреждения зависят от нескольких факторов, включая психологическую среду как часть организационной культуры. Психологический климат многогранен и с трудом поддается количественной оценке. Большинство научных исследователей сходятся во мнении, что хороший психологический климат способствует командной работе, хорошей коммуникации и готовности раскрывать ошибки и неблагоприятные события.

**Цель:** Целью исследования является тестирование комплексного и теоретически обоснованного опросника по психосоциальной рабочей среде и анализ психосоциального климата среди медицинских работников в отделениях кардиологии.

**Материалы и методы:** Основанное на опросе поперечное исследование проводилось с ноября 2022 года по март 2023 года для анализа психологического климата специалистов кардиологических отделений в больницах Южной и Центральной Болгарии. В исследовании использовалась болгарская версия опросника Коус и DeCotiis «Индуктивные меры психологического климата» (IMPC).

**Результаты:** В опросе приняли участие 273 человека, 75.1 % из которых были женщинами (n=205). Средний возраст респондентов составил 46 лет, в диапазоне от 35 до 54 лет. Среди них 35.2 % (n=96) имели более 21 года опыта работы в больнице. Самой многочисленной по показателю опыт работы в больнице в текущем учреждении больницы / текущем отделении больницы является группа от 1 года до 5 лет – 27.5% (n=74) / 27.5% (n=74). Респондентами в основном были дипломированные медсестры (40.3%, n=110). Врачи-специалисты были на втором месте – 23.8% (n=65), за ними следовали фельдшеры – 14.7% (n=40), коллеги-врачи – 11.7% (n=32) и технический/медицинский персонал – 7.3% (n=20). Наше исследование определяет психологический климат в кардиологических отделениях как характеризующийся низким давлением, умеренной автономией, признанием и инновациями, а также высоким уровнем доверия, сплочённости, поддержки и справедливости.

**Заключение:** Исследование было сосредоточено на кардиологических отделениях, что требует индивидуальных подходов для решения проблем в других отделениях. Создание прозрачной и безопасной культуры здравоохранения, оценка вклада сотрудников и улучшение психологической среды требуют сотрудничества заинтересованных сторон.

---

## Ключевые слова

кардиологические отделения, удовлетворённость работой, медицинский персонал, психологический климат, вовлечённость в работу

---