

Consequences of psychological and occupational burnout: a short review

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Abstract. The relationship between ergonomics and burnout is complex and has received substantial attention in modern occupational health research, especially as workplace demands grow and technological advancements alter the employment landscape. Burnout is a recognized occupational health issue and a growing concern throughout Europe. Governments, employers, and health professionals are increasingly focusing on it. In Romania, labour legislation includes measures designed to prevent and combat burnout in the workplace. This is addressed through regulations regarding working hours, rest periods, and health and safety standards. Although burnout is not yet officially recognized as a medical diagnosis, it is categorized as a psychosocial condition in workplace risk assessments. Medical professionals may refer to it as severe occupational stress and may recommend sick leave or psychological counselling for affected individuals. The aim of this study is to promote the well-being of workers by advocating for a shift in the prevention and management of burnout. This change is crucial due to the significant impact of burnout on individuals and workplaces.

1 Introduction

Work-related stress and burnout, and all that they represent, have become increasingly important in modern work environments, having a significant impact on individual well-being and organizational effectiveness [1- 3]. These issues are not only personal challenges, but also have a close connection with the design of work systems. This is where the principles of ergonomics, particularly macroergonomics, can play a pivotal role [2].

Burnout is widely recognized as a syndrome stemming from chronic occupational stressors. It is characterized by three core dimensions: emotional exhaustion, feeling overextended and depleted of resources; depersonalization (or cynicism), an impersonal response towards one's work or colleagues; reduced personal accomplishment, a decline in feelings of competence and achievement [4-8]. Work-related stress, a significant precursor to burnout, is defined as the adverse psychological and behavioural reactions people

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experience when faced with excessive pressures or demands that they feel they cannot manage adequately. It has been regarded as an occupational hazard since the mid-1950s [9].

Macroergonomics is a field that provides a comprehensive framework for examining issues by focusing on the overall work system, including organizational, occupational, environmental, and technological factors, to enhance coordination and compatibility with sociotechnical characteristics [9]. This ultimately improves health, safety, comfort, and productivity. Review articles consistently emphasize that high job demands, work-life conflict, inadequate work schedules, and a lack of decision-making autonomy are key contributors to job burnout and stress [9-11]. Also, the use of resources within the organization, including social and managerial support, is vital to reduce these adverse outcomes and enhance employee well-being and satisfaction [4, 8, 10, 11]. Using this perspective provides a more comprehensive understanding of how work environments can contribute to or protect against stress and burnout. Therefore, this study provides an overview of the literature regarding the effects of burnout on workers' health and performance. It also highlights the most influential journals and institutions and identifies future directions and trends through bibliometric analysis.

2 Methodology

Considering that burnout and workplace stress are interconnected phenomena that significantly impact employee well-being and organizational performance, this review articles thoroughly understand their nature, causes, consequences, and potential solutions, frequently emphasizing the vital role of work system design, a key component of ergonomics.

2.1 Understanding Burnout and Workplace Stress from Review Perspectives

Burnout is widely acknowledged to be a psychosocial syndrome that develops in response to prolonged exposure to chronic occupational stressors [1, 4-7, 11-13]. Three main symptoms characterize it:

- emotional exhaustion: This is often considered the defining feature of burnout. It refers to feeling overly depleted by work, such as being drained of resources, worn out, lacking energy, debilitated, and fatigued [1, 5, 14]. This dimension encapsulates the lack of energy to contribute effectively at work;
- depersonalization (or cynicism): Originally called depersonalization, particularly in human services, this concept was broadened to encompass cynicism, which refers to a negative detachment from work and colleagues. It involves adopting a hardened, cynical, or indifferent attitude towards the recipients of one's work or the job itself. This dimension reflects the challenges of interacting with others and engaging in activities within the professional sphere [1, 4, 5, 12];
- reduced personal accomplishment: a decline in feelings of competence and achievement at work [2, 4, 12]. The World Health Organization (WHO) defines job burnout as an occupational phenomenon comprising tiredness, pessimism/detachment, and reduced efficiency [2].

On the other hand, work-related stress refers to the adverse psychological and behavioural reactions caused by pressures and demands from employers or clients, or by factors within the physical work environment, including workplace violence or bullying [11]. It is considered a significant risk factor for various mental health issues, including burnout syndrome [1, 15]. Recent research in the field has shown that higher job demands are associated with an increased risk of burnout [2, 3, 6, 9, 11, 12].

2.2 The Role of Ergonomics (Macroergonomics)

Macroergonomics, as a concept, offers a critical perspective for understanding and addressing professional burnout, focusing on the work system, taking into account all its components. This approach aims to maximize the coordination and compatibility of work systems with their sociotechnical characteristics, thereby enhancing organizational effectiveness and employee health, safety, comfort, and productivity. It suggests that a comprehensive understanding of work system stressors — not just psychosocial factors — is essential for predicting and mitigating burnout [1, 2].

A significant development in this area is the Work System Stress Questionnaire (WSSQ), which uses a macroergonomics work system approach to predict job burnout [1, 2]. The WSSQ comprises 15 dimensions covering various work system factors contributing to stress and burnout. These dimensions demonstrate the integral role of ergonomic considerations in promoting employee well-being:

- job demands: these are directly predictors of emotional exhaustion and significantly correlate with burnout. The Management Standards Indicator Tool also recognizes job demands as a key workplace concern related to burnout [2, 6, 15].

- work-life conflict: this strongly correlates with emotional exhaustion and depersonalization, mediating work-related stress and burnout. Issues with work schedules and distance from family can exacerbate this conflict, particularly in industries such as petrochemicals [1, 2].

- work schedule: a strong predictor of emotional exhaustion, explaining a significant proportion of the variance in burnout [1, 2, 6, 15,].

- task significance: this predicts all three dimensions of job burnout: emotional exhaustion, depersonalization, and personal accomplishment. Perceiving one's work as meaningless can lead to higher emotional exhaustion [2, 9].

- violence and harassment: found to be highly correlated with depersonalization. A 'lampoon culture', characterized by verbal violence, is often observed in certain industries and can be a specific risk factor for depersonalization [1, 2].

- job insecurity: a predictor of depersonalization [2].

- decision latitude (control): A strong inverse predictor of personal accomplishment. A lack of perceived capacity to influence decisions or access resources is linked to burnout [2, 4].

- welfare and financial facilities: these are predictors of personal accomplishment, and poor facilities contribute to burnout.

- structural problems: these also contribute to a lower sense of personal accomplishment.

- harmful workplace: this ergonomic factor directly leads to emotional exhaustion and depersonalization.

- fairness and justice, rules and regulations, management support, job promotion, and information sharing: additional dimensions of the work system identified by the WSSQ correlate with various aspects of burnout. For example, ineffective supervisor support is a significant source of stress [2, 9]. Poor relationships with management and supervisors have been identified as perpetuating burnout in psychiatrists [4].

2.3 Interrelations within Work Systems

The Job Demands-Resources (JD-R) theory is a well-known framework that has been used in many review studies and is closely aligned with macroergonomic principles [1, 2, 6, 11, 15]. According to this theory, job demands (e.g., high workload or emotional strain) can negatively impact health and motivation, potentially leading to burnout. Additionally, job resources (e.g., social support, autonomy, or feedback) can enhance motivation and well-

being, fostering engagement and mitigating burnout [1, 2, 6, 11]. Reviews confirm strong support for these direct pathways: demands are positively related to burnout, and resources are negatively associated with burnout and positively related to engagement [6].

The organizational context, which ergonomics addresses, is crucial for understanding burnout. Studies show that negative aspects of a job and its organizational structure are closely linked to work-related burnout. Issues like noisy working spaces significantly impact employees' physical health and psychological well-being [1, 9, 11]. This is directly related to the work environment, a key ergonomic concern, and beyond. When applying management theories globally, failure to consider cultural specificities can also affect the relationship between job characteristics and worker well-being, suggesting the need for culturally responsive ergonomic design. For example, a meta-analysis on national cultural values found that "tightness" (strict social norms) can intensify the adverse effects of high job demands on engagement [1, 6].

In conclusion, review articles consistently demonstrate that burnout and workplace stress are deeply rooted in the design and functioning of the work system. A macroergonomic approach considers various stress-related factors within the work system, including organizational, occupational, environmental, and technological factors. This provides a comprehensive framework for identifying and addressing the root causes of burnout and stress. Ultimately, all efforts contribute to healthier and more productive work environments [1, 2, 6,].

3 Bibliometric analysis

Occupational burnout has become a topic of significant interest in the scientific literature, due to the growing concerns about employee mental health and the impact of this phenomenon on organizational productivity. A bibliometric literature analysis was conducted to understand the research directions and topics better. This approach identifies relevant journals, collaborative networks, and emerging trends, clearly showing how occupational burnout has been investigated in the academic literature and highlighting future research perspectives.

The data for bibliometric analysis were extracted from the WoS database in a tab-delimited file format. The analysis aimed to achieve the study's objective, using the terms "occupational" and "burnout". According to the WoS database, at the time of the query (06.28.2025), the search for "occupational burnout" yielded 7,085 results. These data were analysed using VOSviewer software (version 1.6.20) developed at Leiden University (Netherlands).

Of the 7,085 results, 546 articles are review type. Figure 1 shows the evolution of the number of publications since 1981 until June 2025 with the "occupational burnout" topic. As observed, publications significantly increased from 1 in 1981 to 762 in 2024. Interest in this topic remained consistent, gradually growing until around 2010. After this year, the number of publications exploded, especially between 2018-2022. This may be due to the increase in global interest in the effects of occupational stress on worker performance and mental health. At the same time, the period 2020-2022 records a significant increase in studies. This can be correlated with the COVID-19 pandemic, when occupational burnout became an essential topic in medical, psychological, and organizational research. Thus, from Figure 1, it can be seen that burnout is a continuously growing research topic influenced by global events and changes in the work environment.

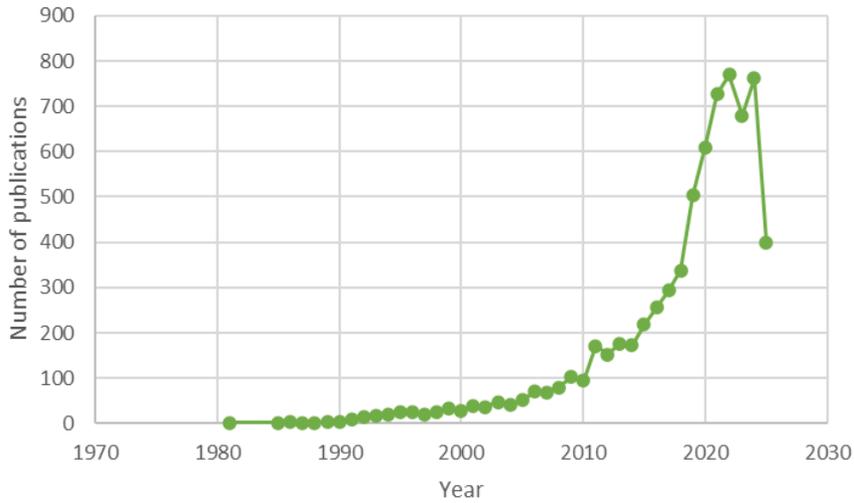


Fig. 1. Number of publications per year.

Moreover, an analysis of the co-authorship was performed using countries as units. The study highlights the scientific collaboration relationships between countries that have published articles on the topic of "occupational burnout". For this analysis, five was chosen as the minimum number of country documents. Of 142 countries, 87 meet the thresholds.

As can be seen from Figure 2, the countries that occupy central positions, with an impressive number of international collaborations, are the USA (1472 publications), China (607), Spain (435), Germany (439), Netherlands (275), Brazil (285), and England (440).

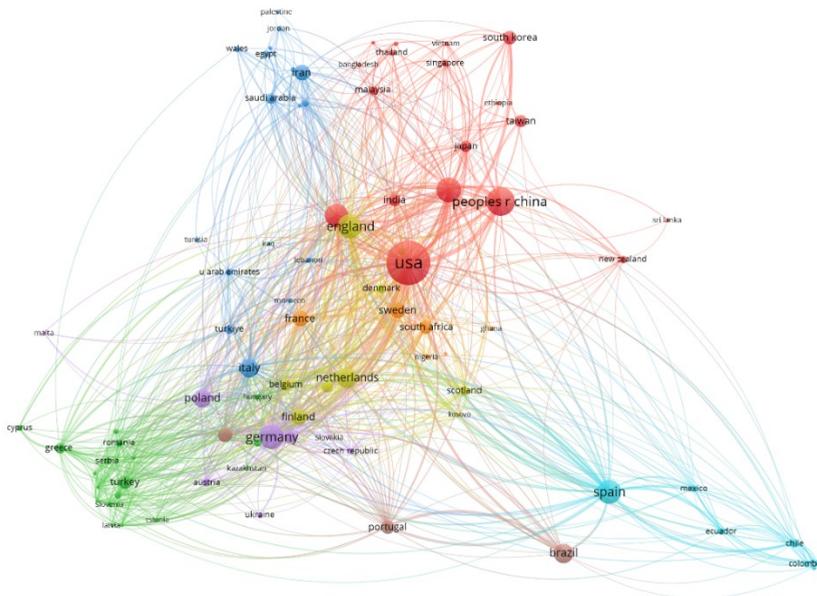


Fig. 2. Visualization of collaboration relationships between countries with a minimum of 5 publications

The size of the circles reflects the volume of publications, while the thickness of the connecting lines between them indicates the intensity of international collaboration. Several distinct clusters are present in the figure, so it can be seen that the countries of Eastern Europe

(Romania-46, Turkey-59, Greece-80, Serbia-31, Bulgaria-13, Croatia-33, etc.) form a cluster, indicating an active network of regional collaboration. At the same time, the map also highlights collaborations between developed and developing countries, such as Pakistan-48, Iran-191, etc., suggesting an increasing internationalization of research in the field of occupational burnout.

The result of the analysis, which shows the co-occurrence between the keywords, is presented in Figure 3. For this analysis, the minimum number of keyword occurrences was five. Therefore, of the 13155 keywords, just 1602 meet the threshold. From this, just 1000 keywords with the most significant link strength were selected. In Figure 3, the font size and thickness show the frequency of terms, while the colors indicate thematic groups that frequently appear together in the same paper.

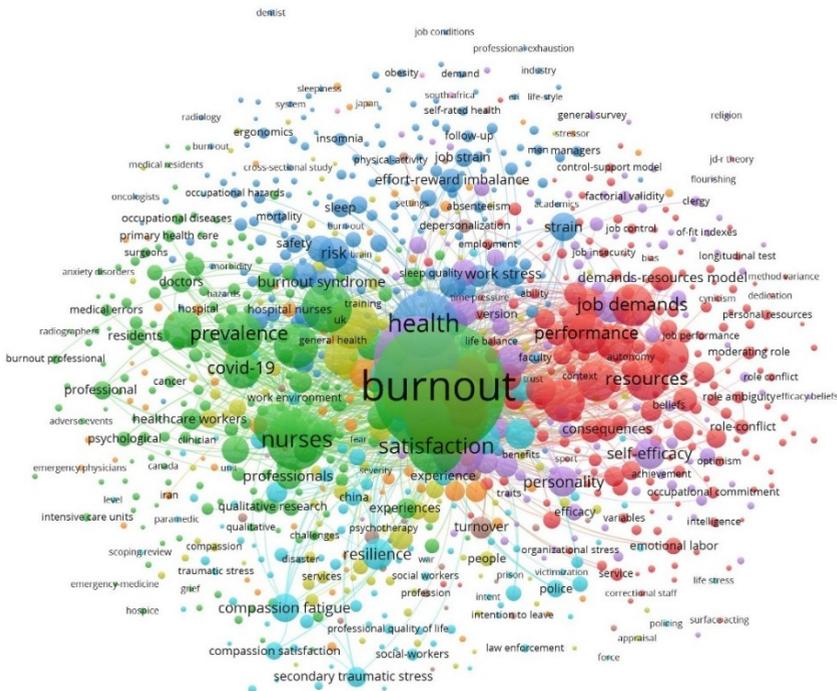


Fig. 3. Visualization of keywords co-occurrence for the terms “occupational burnout” in the WoS database

Figure 3 provides an overview of the most common concepts analyzed, with each thematic cluster reflecting an area of scientific interest, such as the medical environment, the impact of the pandemic, organizational theory etc.

3 Conclusions

The study makes an important contribution to research on occupational burnout by integrating perspectives from ergonomics, particularly macroergonomics, to provide a comprehensive understanding of workplace stressors and how they affect employee well-being. In addition, it analyzes scientific developments through a bibliometric analysis that shows global trends and international collaborations in research, highlighting the current relevance and rapidly growing interest in this topic, especially in the context of the changes brought about by the COVID-19 pandemic.

The results indicate that macroergonomic methods can be used to prevent and manage burnout by improving work system design, reducing excessive demands, and increasing managerial and social support. These findings can be used to guide the development of occupational health policies and organizational strategies that promote a healthier work environment, with clear prevention programs, psychological support, and adaptation of working conditions to reduce the risks of burnout.

Among the limitations is the fact that the analysis is based mainly on review literature and bibliometric data, which may omit field studies or direct empirical data related to specific interventions. There is also methodological and conceptual diversity in the studies, and the definition of burnout is still subject to some debate (e.g., its relationship to depression). In addition, most of the data comes from developed countries, which may limit the generalizability of the results to the socio-cultural context of other regions.

The bibliometric analysis highlighted the growing interest of researchers in occupational burnout, the scientific literature being vast and constantly expanding. Its topics underline the importance of researching this phenomenon in different fields and the need to find solutions to help prevent and manage occupational burnout.

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