



Burnout: a comprehensive review

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Abstract

Burnout has been the focus of extensive scientific research. The World Health Organization officially recognized burnout as an occupational phenomenon, defined as a syndrome resulting from chronic workplace stress that remains unmanaged and characterized by three dimensions: exhaustion, cynicism, and inefficacy. Existing literature highlights limitations in current measurement instruments for diagnostic purposes. These tools often yield scores that overlap with other conditions such as fatigue, anxiety, and depression. Chronic exposure to high job demands and low job resources emerges as the primary trigger for burnout. While individual characteristics (such as neuroticism) may increase susceptibility, specific personality traits associated with higher risk remain unclear. Burnout has adverse effects on both individuals and organizations. Typical interventions focus on stress relief and coping strategies to manage high job demands, but their effectiveness diminishes over time. Evidence from organizational interventions suggests that improving employees' working conditions can reduce burnout risk. Combined interventions offer promise by creating a healthy work environment while empowering employees to handle occasional stress. Social partners should advocate for support in researching burnout, aiming for a clear diagnosis, effective treatment, and preventive measures to mitigate psychosocial risks in the workplace.

Practical Relevance: The findings of this article highlight the importance of addressing both job demands and job resources to mitigate burnout in organizational settings. Implementing interventions that improve working conditions and provide adequate support can significantly reduce burnout risk and enhance employee well-being. Organizations should prioritize creating a healthy work environment and empowering employees with the necessary resources to manage workload effectively.

Keywords Burnout · Causes · Consequences · Diagnosis · Interventions

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Burnout: Ein umfassender Überblick

Zusammenfassung

Burnout ist noch immer Gegenstand wissenschaftlicher Untersuchungen. Die Weltgesundheitsorganisation hat Burnout offiziell als berufliches Phänomen anerkannt, das als ein Syndrom definiert wird. Burnout entsteht danach durch chronischen nicht zu bewältigenden Stress am Arbeitsplatz und umfasst drei Dimensionen, nämlich Erschöpfung, Zynismus und Ineffizienz. In der Literatur wird auf die Beschränkungen der vorhandenen Messverfahren zur Erfassung von Burnout, insbesondere im Rahmen der Diagnose hingewiesen. Die Instrumente liefern häufig Ergebnisse, die sich mit anderen Erkrankungen wie Müdigkeit, Angst und Depression überschneiden. Als Hauptauslöser von Burnout können hohe Arbeitsanforderungen und geringe Arbeitsressourcen gelten. Wenn auch individuelle Merkmale (wie Neurotizismus) die Anfälligkeit für Burnout erhöhen können, ist der Einfluss weiterer spezifischer Persönlichkeitsmerkmale noch unklar. Burnout hat sowohl für den Einzelnen als auch für Unternehmen negative Auswirkungen. Typische Interventionen fokussieren auf den Stressabbau und den Aufbau von Strategien zur Bewältigung hoher beruflicher Anforderungen. Allerdings vermindert sich mit der Zeit ihre Wirksamkeit. Untersuchungen zu organisatorischen Maßnahmen deuten darauf hin, dass die Verbesserung der Arbeitsbedingungen das Burnout-Risiko verringern kann. Kombinierte Maßnahmen erscheinen vielversprechend, da sie ein gesundheitsförderliches Arbeitsumfeld schaffen und gleichzeitig die Mitarbeiter dazu befähigen, mit gelegentlich auftretendem Stress umgehen zu können. Die Sozialpartner sollten sich dafür einsetzen, die Erforschung von Burnout fortzusetzen, um dem Ziel eindeutige Diagnosekriterien zu finden, eine wirksame Behandlung von Burnout zu erreichen und Präventionsmaßnahmen zur Minderung der psychosozialen Risiken am Arbeitsplatz zu identifizieren, näher zu kommen.

Praktische Bedeutung: Die Ergebnisse dieses Artikels unterstreichen die Bedeutung der Berücksichtigung sowohl der Arbeitsanforderungen als auch der Arbeitsressourcen, um Burnout in organisatorischen Umgebungen zu mindern. Die Umsetzung von Maßnahmen zur Verbesserung der Arbeitsbedingungen und zur Bereitstellung angemessener Unterstützung kann das Burnout-Risiko erheblich reduzieren und das Wohlbefinden der Mitarbeiter verbessern. Organisationen sollten Priorität darauflegen, ein gesundes Arbeitsumfeld zu schaffen und die Mitarbeiter mit den notwendigen Ressourcen auszustatten, um sie ihre Arbeitsbelastung effektiv bewältigen können.

Schlüsselwörter Burnout · Ursachen · Folgen · Diagnose · Interventionen

1 Introduction

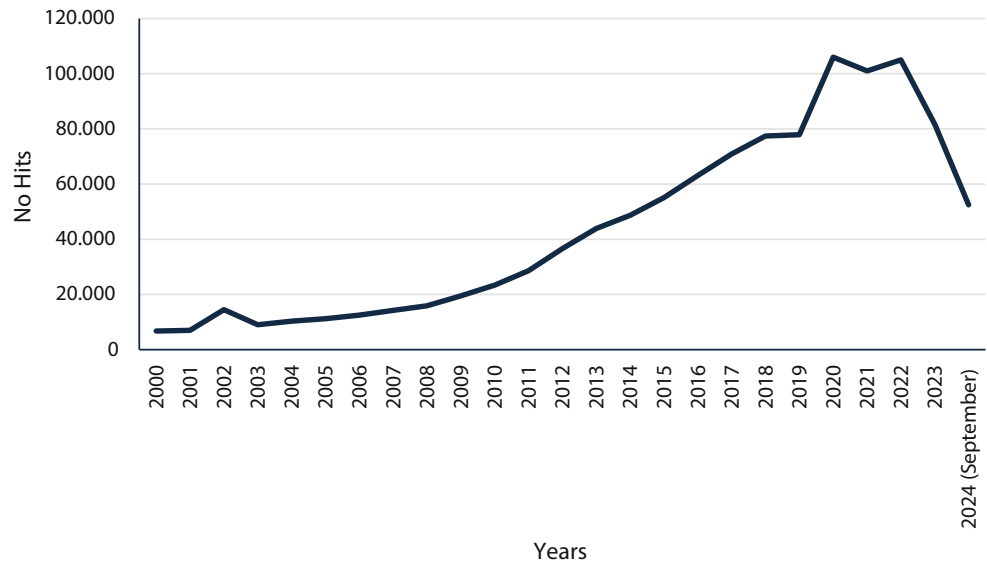
Interest in burnout has persisted for over 50 years, yet the topic remains relevant. Burnout affects workers across diverse sectors, including healthcare, education, and technology. While research trends offer valuable insights into its causes and effects, it is crucial to move beyond mere statistics and engage in open discussions about this issue. By acknowledging and addressing burnout, both individuals and organizations can take proactive steps to prevent it and promote overall well-being. A search on Google Scholar reveals over 1.91 million hits as of September 2024. The number of hits has steadily increased since 2000, peaking during the Covid-19 pandemic (Fig. 1). Notably, the top years for burnout research were 2020 and 2022, with 106,000 and 105,000 publications, respectively. However, post-pandemic, there appears to be a downward trend, as the count dropped to 60,700 in 2023. Despite extensive research, burnout was officially recognized as an occupational phenomenon by the World Health Organization (WHO) only recently, as part of the International Classification of Diseases (World Health Organization 2019).

A survey targeting stress-related occupational diseases was distributed to national experts from 28 (then) Euro-

pean Union countries. Surprisingly, only nine out of the 23 responding countries (Denmark, Estonia, France, Hungary, Latvia, Netherlands, Portugal, Slovakia, and Sweden) officially recognize burnout as an occupational disease (Lastovkova et al. 2018). According to this study, patients with burnout syndrome receive social insurance benefits in just five countries: Denmark, France, Latvia, Portugal, and Sweden. The lack of official acceptance of burnout as an occupational disease stems from several factors. Firstly, there is no precise individual diagnosis for burnout, unlike anxiety, adjustment disorder, or depression. Additionally, capturing psychosocial risks related to burnout in risk assessments remains challenging due to insufficient information. National classifications further complicate matters. For instance, the Dutch classification equates burnout with neurasthenia, while the Swedish classification associates it with exhaustion disorder, which is not necessarily work-related. Unfortunately, the absence of an official burnout diagnosis impedes access to treatment, disability coverage, and workplace accommodations (Eurofound 2018). Despite these ambiguities, questionnaire-based studies around 2015 revealed that burnout complaints affected 10% of workers in European countries and 17% of workers in non-European countries (Schaufeli 2018). In the United States, millennials

Fig. 1 Google Scholar Results for the term “Burnout” (Source: Author’s compilation)

Abb. 1 Google Scholar Ergebnisse zum Begriff “Burnout” (Quelle: Eigene Zusammenstellung der Autorin)



reported frequent or constant burnout symptoms at a rate of 28%, compared to 21% among older generations (Pendell 2018). However, the report does not specify the exact meaning of ‘frequently,’ highlighting the current lack of specific measurement and diagnosis for this syndrome.

This paper provides a scoping review of the literature on burnout in organizations and possible interventions to prevent or mitigate it. This is carried out by focusing on existing meta-analyses for a thorough investigation, supplemented by other studies when required. The review might not be able to solve the ambiguities related to burnout, but it can be a first step in this direction, providing a review of the definition, measurement, and diagnosis of burnout. Differences in the experience of burnout among socio-demographic groups and the differences between burnout and similar disorders, such as depression and anxiety, will then be discussed. Various causes and consequences of burnout will also be reviewed. This information will be used to review the types and effectiveness of interventions to adequately deal with burnout. The review will conclude with suggestions for future research and policymakers. Although Friedhelm Nachreiner was initially skeptical about the topic of burnout, considering it too subjective, he supervised my PhD thesis with great dedication. He contributed significantly by formulating several items of the Oldenburg Burnout Inventory, which we developed together. Moreover, he identified the two predictors of burnout—job demands and motivational incentives (later termed job resources)—in the preliminary results of my PhD study. This led to the creation of the most impactful model on the causes of burnout and a widely used measure for assessing it.

2 Burnout

2.1 Definition of burnout

The concept and definition of burnout have been extensively debated since Freudenberger introduced the notion in 1974 (Bakker et al. 2023). Among volunteers working for aid organizations, Freudenberger observed an ‘extinction of motivation or incentive,’ particularly when individuals’ dedication to a cause or relationship failed to yield desired results (Freudenberger 1974, p. 159). Maslach and Jackson (1981) introduced the most systematic approach to conceptualizing burnout. They defined burnout as a syndrome characterized by emotional exhaustion (feelings of being emotionally overextended and drained by one’s work), depersonalization (a negative, excessively detached response toward recipients of one’s service or care), and lack of personal accomplishment (feelings of incompetence and lack of achievement at work). Initially, scholars believed burnout resulted from chronic emotional and interpersonal stressors in the workplace (Maslach et al. 2001). However, in the 1990s, Maslach et al. (1996) replaced the depersonalization component with cynicism—a distant attitude toward work in general, not necessarily directed at other people. At about the same time, Demerouti and Nachreiner (1998) defined burnout as a syndrome involving exhaustion, and disengagement from work and found evidence that burnout not only occurs in human services but also in industry and transport jobs. Later conceptualizations included physical fatigue, cognitive weariness (Shirom and Melamed 2006), and cognitive and emotional impairment (Schaufeli et al. 2020) as core symptoms of burnout. In essence, burnout appears to have two facets: the inability to continue (exhaustion) versus a lack of willingness (distance) (Schaufeli and Taris 2005).

Recently, the World Health Organization (WHO) has officially recognized burnout as an ‘occupational phenomenon’ within the International Classification of Diseases (World Health Organization 2019). Burnout is not classified as a medical condition. Instead, the WHO definition aligns with the three-dimensional framework proposed by Maslach et al. (2001). According to this conceptualization, burnout represents “a prolonged reaction to chronic emotional and interpersonal stressors in the workplace, characterized by three dimensions: exhaustion, cynicism, and inefficacy” (Maslach et al. 2001, p. 397).

Among the three dimensions, exhaustion stands out as the primary symptom of burnout and is the most noticeable manifestation. While numerous researchers have proposed alternative definitions for burnout, this diversity raises the question of how burnout should precisely be defined. Between 1974 and 2019, no fewer than 13 distinct original definitions of burnout were published (Guseva Canu et al. 2021), with many current definitions stemming from these foundational concepts. This underscores the lack of clarity surrounding the definition of burnout.

2.2 Measurement of burnout

The most-known measurement of burnout is the Maslach Burnout Inventory (MBI), developed by Maslach and Jackson (1981). Based on the MBI, several adaptations have been made for different occupational types. These include the MBI-HSS for human services and health care, the MBI-ES for educational settings, and the MBI-GS for occupations that are not people-oriented (Edú-Valsania et al. 2022; Maslach et al. 2001). In addition to the MBI and its adaptations, many other measurements exist aimed at measuring general or occupation-specific burnout. Edú-Valsania et al. (2022) provide an overview of these instruments. Table 1 presents the various measurement instruments that are found, categorized by their general nature.

Next to the (various types of) exhaustion, what several of these measures have in common is the experience of a distal or cynical attitude toward the job (depersonalization, cynicism, disengagement from work, mental distance). This resembles the measurement of Demerouti and Nachreiner (Demerouti and Nachreiner 1998; Demerouti et al. 2001), i.e. the Oldenburg Burnout Inventory (OLBI).

Table 1 Overview of burnout measurement instruments (Source: Edú-Valsania et al. 2022)

Tab. 1 Überblick über Burnout Messinstrumente (*Quelle:* Edú-Valsania et al. 2022)

Generic instruments		Instruments for specific populations	
Instrument	Measured dimensions	Instrument	Measured dimensions
Maslach Burnout Inventory (MBI)	(1) emotional exhaustion, (2) cynicism, (3) reduced professional fulfillment	Maslach Burnout Inventory-Human Services Survey (MBI-HSS)	(1) emotional exhaustion, (2) cynicism, (3) reduced professional fulfillment
Questionnaire for the Evaluation of Burnout Syndrome at Work (CESQT)	(1) enthusiasm for work, (2) physical burnout, (3) presence of negative attitudes of indifference and cynicism towards the organization’s customers, (4) guilt	Brief Burnout Questionnaire Revised for Nursing Staff	(1) job dissatisfaction, (2) social climate, (3) personal impact, (4) motivational exhaustion
Copenhagen Burnout Inventory (CBI)	(1) personal burnout, (2) work-related burnout, (3) client-related burnout	Physician Burnout Questionnaire (PhBQ)	(1) burnout syndrome, (2) antecedents, (3) consequences, (4) personal resources
Oldenburg Burnout Inventory (OLBI)	(1) exhaustion, (2) disengagement from work	Teacher Burnout Questionnaire	(1) emotional exhaustion, (2) cynicism, (3) reduced professional fulfillment
Burnout Clinical Subtypes Questionnaire (BCSQ-36/12)	Frenetic: (1) involvement, (2) ambition, (3) overload Under-challenged: (1) indifference, (2) lack of development, (3) boredom Worn-out: (1) neglect, (2) lack of acknowledgment, (3) lack of control	Psychologist Burnout Inventory	(1) control, (2) overinvolvement, (3) support, (4) negative client behaviors
Burnout Assessment Tool (BAT)	BAT-C: (1) exhaustion, (2) cognitive, (3) emotional impairment, (4) mental distance BAT-S: (1) psychological complaints, (2) psychosomatic complaints	Burnout Questionnaire for Athletes	(1) emotional/physical exhaustion, (2) reduced sense of accomplishment, (3) devaluation
Shirom-Melamed Burnout Questionnaire (SMBQ)	(1) emotional exhaustion, (2) physical fatigue, (3) cognitive weariness, (4) tension, (5) listlessness	School Burnout Inventory	(1) exhaustion at school, (2) cynicism towards the meaning of school, (3) sense of inadequacy at school
Shirom-Melamed Burnout Measure (SMBM)	(1) physical fatigue, (2) emotional exhaustion, (3) cognitive weariness	Parental Burnout Inventory	(1) exhaustion, (2) distancing, (3) inefficacy

However, most studies focus on measuring the dimensions of burnout rather than the burnout syndrome itself. According to the APA dictionary (<https://dictionary.apa.org/syndrome>), a syndrome comprises a collection of symptoms and signs that frequently co-occur but may lack a single underlying cause. Instead of analyzing separate dimensions, burnout is identified when its constituent symptoms are experienced simultaneously. Peterson et al. (2008) used job demands and job resources to discriminate burn-out, non-burn-out, exhausted, and disengaged employees. They discovered that more than 50% of the burned employees (based on OLBI scores) were accurately classified into this group based on job demands and job resources. This group also exhibited the highest rates of overtime, sickness absence, and sickness presence compared to other groups. Notably, job resources played a key role in distinguishing burnout from non-burnout and exhausted states. However, analyses treating burnout as a syndrome rather than focusing solely on its specific dimensions remain scarce.

Several issues arise concerning the measurement of burnout. First, clinical psychologists view, measure, and diagnose burnout differently from academics (Demerouti et al. 2021). Whereas the latter generally assess burnout through questionnaires, clinical psychologists hold that they cannot entirely rely on questionnaires in diagnosing burnout and must reconstruct the pathogenesis, that is, the history and sequence of life events, symptoms, and mechanisms that led to the syndrome (Van Dam 2021). Also, the prevalence of burnout may be overestimated when it comes to the reporting of burnout complaints (as measured with questionnaires). Furthermore, the current questionnaires do not reflect the complexity of burnout (Edú-Valsania et al. 2022). Van Dam (2021) argues that measurement tools should be designed that consider both the antecedents and the physical and psychological consequences of burnout, thereby offering a more comprehensive picture. They also argue that burnout measures should be analyzed within the framework of theoretical models that consider cause, effect, and correlates. This would allow for more tailored treatments of burnout because the measurement is more individualized. Finally, the authors note that more and more burnout measurement instruments are being developed. These differ in cutoff values, meaning that a given value may indicate the presence of burnout for one instrument, but not for others. In practice, this means that there is no consensus on the exact relationship between results and the presence (or absence) of burnout. This is confirmed by Kleijweg et al. (2013) and Kaschka et al. (2011), who argue that instruments do not offer a reliable diagnosis of burnout and should thus be used carefully in combination with qualitative diagnosis.

To tackle this problem, a distinction should be drawn between ‘statistical norms’ and ‘cut-off scores’. Statistical norms simply compare an individual’s score with the dis-

tribution of the population (which also requires comparison with a representative sample, not just a convenience sample as in most burnout research). Comparing with the population only informs us whether someone scores ‘higher’ or ‘lower’—in other words, its relative position. However, it is unknown whether ‘higher’ scores may mean ‘too high’. To discover that, the ‘cut-off’ scores should be empirically determined by comparing them with patients suffering from burnout. In this way, we can tell whether someone scores ‘too high’ and (perhaps) has burnout.

Several issues persist in the conceptualization of burnout. First, the WHO adheres to the definition put forth by Maslach et al. (2001), yet does not classify burnout as a medical condition. Second, ongoing studies debate the specific symptoms that characterize burnout. For instance, some researchers argue that cognitive weariness should be considered a primary dimension due to its association with burnout (Demerouti et al. 2021). Third, while exhaustion is widely accepted as the central symptom of burnout, it is also the least unique symptom of burnout (Demerouti et al. 2021). In summary, recent research has contributed to refining the definition of burnout, but the ongoing academic discourse suggests that a definitive conclusion has not yet been reached (Bakker et al. 2023; Demerouti et al. 2021).

2.3 Diagnosis of burnout

It comes as no surprise that the measurement of burnout significantly impacts its diagnosis. As previously mentioned, clinical psychologists approach burnout differently from their academic counterparts (van Dam 2021). Since individuals experiencing short-term stress often exhibit high scores on burnout measures—similar to those with mental health conditions like depression and anxiety—relying solely on questionnaires becomes inadequate for distinguishing between mild stress-related disorders and clinical burnout. Clinical psychologists must delve into the causes and progression of burnout symptoms, necessitating a qualitative approach that considers personal history and life events. This approach allows differentiation between patients with short-term stress symptoms and those suffering from clinical burnout.

For patients experiencing clinical burnout, stress throughout their lifetime is perceived as normal, and even minor stressors can trigger a collapse. Clinicians must recognize that it is not necessarily the specific minor stressor that matters, but rather the patient’s entire life trajectory. Additionally, distinguishing mild burnout from clinical burnout remains challenging due to discrepancies between measurement tools and clinical applicability. Existing burnout questionnaires were not originally designed for diagnostic purposes and have seen limited validation in clinical samples (Bakker et al. 2023).

Researchers have further explored burnout by moving away from a simple grading system toward distinguishing burnout cases from non-burnout cases, aiming to facilitate treatment access (Eurofound 2018). Some have even used medical criteria, such as the ICD-10 diagnosis code F43-8 ('other reactions to severe stress'), to identify burnout cases and calibrate self-reported answers on burnout questionnaires.

A review conducted by Eurofound in 2018 revealed that most countries align with the latest WHO Classification, which emphasizes over-exhaustion and does not directly link burnout to work-related conditions. However, Sweden stands out as the only country that has implemented a specific diagnosis for burnout. In Sweden, burnout is recognized using the ICD-10 code F43.8A, referred to as 'utmattningssyndrom' (translated as 'fatigue syndrome'). This diagnosis falls under the category of 'adaptation disorders and response to severe stress'. The diagnostic criteria for utmattningssyndrom include the following: (a) Physiological or Mental Symptoms of Exhaustion: These symptoms must persist for at least two weeks. (b) Fundamental Lack of Psychological Energy: Individuals experience a profound depletion of mental energy. (c) Additional Symptoms: These may include difficulty concentrating, reduced ability to cope with stress, irritability, emotional instability, sleep disturbances, muscle pain, dizziness, or palpitations. To qualify as utmattningssyndrom, these symptoms must occur daily over two weeks, significantly impair work capacity, and be unrelated to any other psychiatric diagnosis, substance abuse, or medical condition.

In summary, there is currently no validated method for diagnosing burnout, and the overlapping symptoms with various other mental conditions make burnout diagnosis challenging.

2.4 Comparison with other mental health conditions

Existing research, including meta-regression analyses, has highlighted a significant overlap between burnout, depression, and anxiety, complicating the diagnosis of burnout (Bakker et al. 2023; Chen and Meier 2021; Meier and Kim 2022). For instance, Chen and Meier (2021) discovered a positive association between burnout and depression among nurses ($r=0.403$, 95% CI=[0.327, 0.474], $p<0.0001$) which was even higher in the meta-analysis of Meier and Kim (2022) ($r=0.612$, 95% CI=[0.510, 0.697], $p<0.0001$). However, the meta-analysis of Koutsimani et al. (2019) did not find conclusive evidence supporting the relationship between these constructs. Specifically, the results indicated a significant association between burnout and depression ($r=0.520$, SE=0.012, 95% CI=[0.492, 0.547]) as well as between burnout and anxiety ($r=0.460$, SE=0.014,

95% CI=[0.421, 0.497]). Notably, moderation analysis revealed that studies using the Maslach Burnout Inventory (MBI) or of higher quality (e.g., longitudinal designs, appropriate scales) showed smaller effect sizes, suggesting that these constructs are distinct. Thus, while an association exists among burnout, depression, and anxiety, it is not strong enough to indicate a complete overlap between these variables.

While they share some characteristics, they are distinct constructs. *Chronic fatigue* from job stress resembles burnout in various aspects (including illness, the need to restore depleted energy, and external causal attributes) but has different underlying causes (Nuallaong 2013). People with regular exhaustion can bounce back after resting. If exhaustion is prolonged, burnout can occur. Burnout involves more than just exhaustion; it also includes cynicism toward work and impaired cognitive functioning.

Regarding burnout and *depression*, late-stage burnout shares many symptoms with depression (e.g. sadness, fatigue, inability to concentrate, feelings of dysphoria, and low energy), leading to some confusion about their overlap (Chen and Meier 2021; Koutsimani et al. 2019; Meier and Kim 2022). However, burnout is unique due to its work-related context and emotional resource depletion. Depression lacks a specific context and involves a lower emotional state. Additionally, the development of burnout differs significantly from that of depression. A depressive episode is characterized by a depressed mood most of the day for two weeks, with no history of manic episodes and no direct effects from substances. Moreover, depressive episodes must present at least four somatic symptoms including loss of interest, loss of pleasurable feelings, reduced capacity for enjoyment, interest, and concentration, decreased self-esteem and self-confidence, ideas of guilt, sleep disturbance, depression, agitation, diminished appetite, weight loss, or loss of libido.

Neurasthenia, also known as fatigue syndrome, involves increased fatigue after cognitive effort (Nuallaong 2013). While some symptoms overlap with burnout (such as mental fatigue and physical weakness and exhaustion after minimal effort), neurasthenia primarily focuses on physical dimensions (including physical weakness and exhaustion, muscular pain, inability to relax, dizziness, headaches, sleep disturbance, worry, irritability, and inability to experience pleasure). Neurasthenia does not emphasize work-related causes and is considered a minor diagnosis, varying across cultures remaining of interest in Chinese and Japanese medical communities.

Adjustment disorder is defined as a disease that causes significant reactions to adjustment and the severe stress associated with it (Nuallaong 2013). Factors that can cause stress may be related to the following: social network (such as the departure of a person close to you), social assistance

or appreciation (such as settlement or being an immigrant), age transition, or crisis (such as school enrolment, parenthood, retirement). Symptoms include sadness, anxiety, inability to cope with problems or situations, and decreased daily performance. In short, an adjustment disorder causes stress because of an inability to cope with new situations. This differs from burnout, as burnout is a reaction to ongoing stressors and an inability to cope with stressors adequately.

2.5 Socio-demographic differences

Because of the complexity of burnout syndrome, it should come as no surprise that burnout is manifested differently from person to person. Research by Purvanova and Muros (2010) revealed that female employees experience burnout differently from males. Women tend to be more emotionally exhausted, while men exhibit greater depersonalization. These gender differences are more pronounced in the United States than in the EU. However, gender differences did not vary significantly in male-typed vs female-typed occupations suggesting job-related effects rather than purely gender-based differences. A meta-analysis by Aguayo et al. (2017) explored the impact of socio-demographic factors (age, sex, marital status, and number of children) on police officers' burnout. While sex and age showed no significant correlations, occupation played a role. The authors concluded that research in this area remains inconclusive.

A meta-analysis of educational workers' burnout (Alsalhe et al. 2021) revealed that age predicts emotional exhaustion and lack of personal accomplishment, but not depersonalization. Gender's impact on burnout varies inconsistently across studies. This highlights that although males and females experience burnout differently, depending on the context, this relationship lacks general consistency. Marital status is associated with emotional exhaustion and depersonalization, with single individuals experiencing higher burnout. Additionally, educational background influences burnout, such that the higher the educational background, the greater their effort and therefore the greater their professional expectations are, which makes employees more susceptible to burnout.

To conclude, socio-demographic characteristics impact burnout differently across occupations. Contextual work differences between professions, such as police officers and teachers, contribute to this variability.

3 Causes and consequences of burnout

3.1 Causes

Various causes of burnout have been identified in the literature. One frequently cited theory for explaining burnout and its consequences is the Job Demands-Resources (JD-R) theory (Demerouti et al. 2000, 2001; Demerouti and Nachreiner 1998). According to the JD-R theory, burnout arises from two distinct processes: a health impairment process and a (reduced) motivational process. The health impairment process stems from high or poorly designed job demands, which encompass aspects of the job requiring significant employee effort and potentially resulting in physical or psychological costs (Bakker et al. 2023; Demerouti and Bakker 2023). Examples include high workload, long work hours, and conflicts with colleagues. On the other hand, the motivational process originates from job resources—energizing elements of work that facilitate goal achievement and personal development (Bakker et al. 2023; Demerouti and Bakker 2023). These resources include social support, developmental opportunities, and task variety.

While the health impairment process primarily leads to exhaustion, the motivational process is associated with cynicism and disengagement (Demerouti et al. 2000, 2001). Reviews and meta-analyses indicate that high job demands (including work pressure, time pressure, and work-home interference) and a lack of job resources (such as social support, feedback, and autonomy) are crucial factors contributing to burnout (Alarcon et al. 2009; Schaufeli and Bakker 2020).

A meta-analysis by Lee et al. (2011) found significant correlations between job stress, over-involvement, control, and professional identity with the dimensions of job burnout. Emotional exhaustion was most closely associated with job stress and over-involvement. Interestingly, the magnitudes of association for control and professional identity were similar across all three dimensions of burnout. The authors argue that job stress and over-involvement differ from other antecedents, consistent with resources theory, which classifies them as job demands while considering the other concepts as job resources. Notably, over-involvement exhibits a paradoxical effect—it can lead to significant exhaustion but also enhance the perception of personal accomplishment. Therefore, caution is necessary when approaching over-involvement, as its initial positive impact may ultimately contribute to job burnout.

Bakker et al.' (2023) review categorized the causes of burnout into situational or individual factors. Situational factors occur in the employee's environment, whereas individual factors are part of a person, instilled into one's personality. What concerns the situational factors, the bal-

ance between job demands and resources significantly influences exhaustion, depersonalization, and cynicism, driving burnout (Lee and Ashforth 1996). According to Alarcon's (2011) meta-analysis, demands (e.g., role ambiguity, stress, workload) significantly correlate with all burnout dimensions, whereas resources relate consistently to exhaustion and cynicism, but more strongly to reduced personal accomplishment. Organizational attitudes also had a moderate impact on burnout. Longitudinal studies reveal that job control and workplace support mitigate emotional exhaustion, while workload and job insecurity increase its risk (Aronsson et al. 2017).

Individual characteristics play a substantial role in burnout. Neurotic employees focus on the negatives and are prone to burnout. Emotional stability predicts exhaustion and depersonalization. Resilience, coping abilities, and intrinsic motivation protect against burnout. Emotion-focused coping relates to exhaustion and depersonalization, while problem-focused coping affects personal accomplishment (Shin et al. 2014). Inter-role conflict (work-to-nonwork and nonwork-to-work) correlates with emotional exhaustion and cynicism, moderated by gender, age, and cultural background (Reichl et al. 2014). Job stressors and burnout mutually reinforce each other over time (Guthier et al. 2020), implying that intervention is essential to break the burnout cycle.

In summary, meta-analyses indicate that job demands (including stressors, workload, and role conflicts) strongly relate to exhaustion and, to a lesser extent, cynicism. Conversely, job resources (such as control, social support, and rewards) moderately impact burnout, particularly personal accomplishment. Additionally, individual factors like overinvolvement, neuroticism, and coping styles influence exhaustion and cynicism. However, it is essential to recognize that this research often relies on self-reports and has inherent limitations (Althubaiti 2016).

3.2 Consequences

Several studies have investigated the consequences of burnout syndrome. Burnout affects employees in various ways, emphasizing its detrimental impact on individuals and organizations. Salvagioni et al. (2017) categorized burnout consequences into physical (including Type 2 diabetes, cholesterol, coronary heart disease, musculoskeletal pain, headaches, respiratory infections, severe injuries, mortality below 45 years), psychological (including insomnia, depressive symptoms, hospitalization for mental disorders, ill-health symptoms), and occupational (including job dissatisfaction, absenteeism, presenteeism, disability pension) domains. Similar consequences were found by other studies, concluding that burnout affects employees in various

ways and at different levels of severity and duration (Bakker et al. 2023).

Overall, burnout has wide-ranging effects, but attributing them solely to burnout can be challenging. Nevertheless, recognizing these outcomes is crucial for addressing burnout's impact.

4 Burnout interventions

Due to the detrimental impact of burnout on individuals and organizations, extensive research has been conducted on interventions to reduce or eliminate burnout and its symptoms. Depending on their aim, interventions are usually classified as primary, secondary, or tertiary (Ahola et al. 2017). Primary interventions target all employees and aim to reduce risk factors and prevent burnout. They often address stress-related problems at the organizational level. Secondary interventions aim to prevent burnout from developing in high-risk groups. Therefore, they focus on early intervention and support. Tertiary interventions aim to treat employees who already experience burnout. Such interventions provide personalized support and coping strategies. Additionally, interventions can be categorized based on their target: person-focused interventions enhance psychological resources, while context-focused interventions reduce workplace stressors.

4.1 Person-directed interventions

Person-level interventions encompass a range of approaches, including cognitive behavioral therapy, mindfulness, psychosocial training, psychotherapy, counseling, adaptive skill development, social support, and relaxation exercises (Bagnall et al. 2016). These interventions aim to enhance psychological resources and coping abilities. Although results are difficult to interpret due to the different measures used to capture burnout, psychosocial skill training not only reduces overall burnout but also improves all dimensions (Awa et al. 2010). Similarly, interventions promoting adaptive coping—such as active planning and positive reframing—significantly decrease emotional exhaustion and depersonalization while increasing personal accomplishment. These positive effects persist in both short-term and long-term contexts.

A study by Reeve et al. (2018) explored Acceptance and Commitment Therapy (ACT) interventions for burnout reduction. Despite no pooled effect on burnout relative to control, ACT did reduce psychological distress. Surprisingly, it had no impact on psychological flexibility, a key aspect of ACT. Furthermore, a meta-analysis by Maricuțoiu et al. (2016) revealed that person-directed interventions (e.g., cognitive-behavioral therapy, relaxation

techniques) modestly but durably reduce burnout. However, these interventions primarily target emotional exhaustion, emphasizing the need for novel approaches to address depersonalization and personal accomplishment.

In their meta-analysis, Iancu et al. (2018) found slight effectiveness for various interventions in reducing emotional exhaustion and enhancing personal accomplishment. The interventions included cognitive behavioral therapy, mindfulness, social support, and professional development. Mindfulness-based interventions showed significant effects on exhaustion and personal accomplishment, with a small impact on depersonalization. This is in line with Fendel et al.'s (2019) meta-analysis that observed a positive effect of mindfulness-based interventions. Additionally, cognitive behavioral interventions (for exhaustion) and interventions based on social support (for personal accomplishment) were impactful.

Dreison et al.'s (2018) meta-analysis covered 35 years of mental health intervention research. Overall, interventions had a small but positive effect. Person-directed interventions were more effective than organization-focused interventions to reduce exhaustion. Job training/education emerged as the most effective organizational intervention type whereas the most common person-directed intervention was stress management workshop.

4.2 Organization-directed interventions

Organizational interventions focus on work process restructuring, performance appraisals, shift adjustments, job evaluation, and more (Bagnall et al. 2016). These interventions aim to enhance work processes, communication, and job design. A meta-analysis by Fernet et al. (2012) found that enriching job design by providing opportunities to exercise professional autonomy, improve connections with co-workers, and be psychologically rewarded fosters the development of autonomous motivation which, in turn, prevents exhaustion. De Simone et al. (2021) compared the effectiveness of individual-directed interventions vs. organization-directed interventions in reducing burnout scores among physicians. Individual-directed interventions comprised mindfulness-based stress reduction techniques, educational interventions targeting physicians' self-confidence and communication skills, exercise, or all these features. Organization-directed interventions included workload interventions that focused on rescheduling hourly shifts and reducing workload, discussion meetings to enhance teamwork and leadership, structural changes, communication skills training, and mindfulness. De Simone et al. (2021) showed that organization-directed interventions were associated with a significant reduction in burnout score (standardized mean differences = -0.446 ; 95% CI, -0.619 to -0.274), while individual-directed interventions

were associated with a small reduction in burnout score (standardized mean differences = -0.178 ; 95% CI, -0.322 to -0.035). Moreover, organization-directed interventions were more effective in reducing depersonalization than individual-directed interventions, and organization-directed interventions were related to more improvement in personal accomplishment than individual-directed interventions.

Besides organizational interventions to reduce burnout levels, there are also interventions to help employees with high burnout return to their jobs. A prospective study by Karlson et al. (2010) among employees/patients on long-term sick leave for clinical burnout found that a workplace-directed intervention, i.e., patient-supervisor communication, resulted in 89% of the subjects had returned to work to some extent by 18-month period, while the increase in returns to work in the control group stopped after six months, and only 73% had returned to work to some extent.

Recently, it was shown that workplace interventions aimed at training employees to improve their work characteristics (job demands and job resources) reduce burnout (Gordon et al. 2018). Such interventions consisted of a workshop to understand the role of job demands and resources as well as to analyze one's job, implementation of job crafting goals, and an evaluative session. They were found to increase job crafting behaviors (seeking resources and challenges, optimizing, or reducing demands) and consequently reduce burnout. However, long-term effects remain unexplored.

4.3 Combined approach

Some studies investigate the combination of individual and organizational interventions to mitigate burnout risk. Both individual employees and organizations can make adjustments to address this issue. A meta-analysis by Awa et al. (2010) examined six combined intervention programs targeting employee burnout. These interventions included professional supervision, work sessions, multidisciplinary evaluations, hospital-driven changes (reduce workload, increase decision latitude,) stress management, and improving communication and coping skills. Overall, these interventions significantly decreased burnout (primarily exhaustion and depersonalization) but their effects diminished over time (6 months for person-directed interventions, 1 year for organization-directed interventions, and 1+ years for combined interventions).

In a meta-analysis conducted by West et al. (2016), the effects of combined interventions on physician burnout were highlighted. The authors discovered that integrating individual-focused and organization-focused intervention programs effectively reduced burnout dimensions. Similarly, Pijpker et al. (2020) investigated 10 combined interventions and found that they significantly improved exhaus-

tion and cynicism (or depersonalization) in both short-term (after 4 months) and long-term (after 12 years) assessments, compared to professional efficacy (or personal accomplishment). Notably, the content of these combined interventions varied widely. None of the studies evaluated identical person-directed and organization-directed interventions. The interventions included dialogue meetings, staff support groups, job redesign, work schedule improvements, team building, stress management, workshops, and cognitive-behavioral therapy. Duration and frequency also differed across studies, with some based on three-hour sessions and others on monthly sessions. Various theoretical frameworks were employed, primarily focusing on person-job fit, while several studies did not report any theoretical framework. A few studies explored mediators of change, revealing that involving employees in decision-making, enhancing job control, and providing social support while eliminating stressors contributed to the intervention's effectiveness. The authors cautiously recommend workplace health promotion practitioners to build job resources while addressing workplace stressors to support the rehabilitation of burned-out employees.

4.4 Summary of evidence on interventions

Evidence suggests that interventions to reduce burnout symptoms are more frequently conducted at the individual level rather than the organizational level. Individual-level interventions, such as staff training and cognitive-behavioral programs, effectively reduce burnout. Moreover, changes in an organization's culture and work practices—often related to workload and work behavior—appeared to mitigate stressors and factors contributing to burnout, while enhancing employee autonomy and social support. Combined interventions addressing both individual and organizational aspects prove more effective than individual or organizational interventions alone. However, direct comparisons between organization-directed and combined interventions are scarce due to methodological challenges (e.g. differences in measurement instruments, intervention duration, differentiation of burnout dimensions, and random assignment of participants).

5 Limitations and future research

5.1 Conceptualization and diagnosis of burnout

In alignment with the World Health Organization's conceptualization, burnout has been approached as a multifaceted phenomenon. The proposed conceptual framework for burnout is based on Maslach et al.'s (1996) model, although the corresponding diagnostic instrument has not

been specifically developed for diagnostic purposes. Consequently, we lack knowledge about the critical threshold at which burnout scores indicate a clinical disorder, making it challenging to differentiate between mild burnout symptoms (potentially at risk) and the full burnout syndrome (Bauernhofer et al. 2018; Schaufeli et al. 2001). Furthermore, there exists a debate regarding the overlap and distinctions between burnout and depression. Like burnout, depression includes symptoms such as fatigue and loss of energy alongside a depressed mood (American Psychiatric Association 2013). Notably, a meta-analysis by Bianchi et al. (2021) revealed a strong correlation ($r=0.80$) between depression and the exhaustion component of burnout, as measured by Maslach et al.'s (1996) instrument. However, these assessments fail to recognize burnout as an occupational syndrome resulting from work-related factors (Bakker et al. 2000), characterized by a chronic pattern of specific symptoms. Van Dam (2021) contributes to this ongoing discussion but suggesting a combination of questionnaires combined with (clinical) interview data to diagnose burnout. This suggestion still needs to be explored in research and practice.

5.2 Burnout and objective measures

Except for Demerouti et al.'s (2001) study, we are unaware of any other research that investigates the potential causes of burnout using measures independent of job holder's assessments. Consequently, criticism has been directed at burnout research due to common method variance. Similarly, empirical evidence suggests that when burnout scores are associated with outcomes assessed through means other than self-reports, the relationship weakens or becomes non-significant. For instance, literature reviews reveal that the link between burnout and objective (or externally rated) performance outcomes is considerably weaker than the association between burnout and self-reported performance (e.g., Taris 2006). Furthermore, while meta-analytic correlations between exhaustion and performance are significant and negative, evidence regarding the relationships between (a) depersonalization and reduced personal accomplishment and (b) job performance remains inconclusive. Why is this the case? Could it be attributed to measurement issues or theoretical considerations (such as the assumption that work-related performance remains unaffected)? Alternatively, is the lack of a clear link between burnout and performance due to the exclusion of individuals with high burnout scores from empirical studies? Additionally, identifying biomarkers for burnout has proven challenging, although some studies suggest that dysregulation of the hypothalamic—pituitary—adrenal axis (which controls cortisol release) may serve as an indicator of burnout (e.g., Marchand et al. 2014).

5.3 Targeting interventions for burnout causes and employees' needs

Current research often focuses on burnout consequences, emphasizing coping and stress management techniques rather than addressing root causes. Person-directed interventions place responsibility on employees for managing their burnout, while organizational demands remain fixed. However, these interventions tend to lose effectiveness over time. Most studies emphasize stress reduction through relaxation, mindfulness, and cognitive behavioral therapy. However, these approaches do not address the underlying causes of burnout and merely function like providing an aspirin. Given the overwhelming evidence that burnout results from a combination of high job demands and low job resources, to combat burnout effectively, organizations should redesign workplaces and optimize job characteristics. Primary interventions, adjusting job demands and resources, can enhance work engagement and prevent chronic burnout. Therefore, more primary interventions should be designed and tested instead of the secondary and tertiary interventions that dominate burnout intervention research (Tetrick and Winslow 2015).

Collaborative efforts between organizations and employees, tailored to individual needs, hold promise. For instance, those with mild stress symptoms could benefit from stress management programs, whereas individuals with excessive perseverance may be better off with a healthy lifestyle program. The organization's task is to create an environment with tolerable stressors/demands and sufficient resources, facilitating effective employee functioning. Future research should explore personalized ways to optimize work context or job design and compensate for work-related effort. Combining individual and organizational level approaches includes a system change that adopts a participatory environment, promotes open communication, manager and peer support, a culture of learning, and successful employee participation in program planning and implementation. Another possible solution might be to develop job crafting interventions for individuals scoring high on burnout, with more attention to optimizing demands and expanding job resources, combined with organizational interventions that distribute less strenuous work tasks to employees trained in alternative energy management, leisure crafting, and recovery strategies.

6 Conclusion and policy recommendations

This review showed that burnout is a complex phenomenon that has attracted much scientific and societal attention. The WHO recognized burnout as an occupational phenomenon in the 11th revision of the International Categorization of

Diseases (2019). Burnout now needs to be recognized as an occupational disease, but to that end, the symptoms of burnout have to be clarified, and how they can be measured and diagnosed. Currently, the existing measurement instruments are not appropriate for diagnostic purposes, and their scores show substantial overlap with other disorders, such as fatigue, anxiety, and depression. The literature seems to agree that a valid diagnosis of burnout requires a combination of a questionnaire (from a work and organizational point of view) and interview data (from a clinical point of view), as well as the integration of information about its causes. The latter is challenging, however, because psychosocial risks are also not clearly defined and objectively assessed. The lack of a clear definition, measurement, and diagnosis of burnout makes it difficult to specify a clear policy on preventing burnout and protecting and treating those who suffer from it. The review discovered that chronic exposure to high job demands and low job resources are the main triggers of burnout. Whereas individual characteristics (such as neuroticism) make some people more prone to burnout or to react to its triggers, there is no clear picture of what specific personality characteristics entail a higher risk of burnout. However, we did see that burnout causes various individual consequences, pointing to its detrimental effects for both individuals and organizations.

Burnout interventions typically focus on stress relief and coping strategies to deal with the high perceived level of job demands. Intervention results show that the effects diminish over time, meaning that employees are again in danger of developing burnout as a result of increased stress levels. Research also shows that organizations focus primarily on the consequences of burnout, while more attention should be given to the underlying causes of the job. Evidence from organizational intervention research also shows that organizations can improve their employees' working conditions to reduce burnout risk. Moreover, they can provide a solid return-to-work plan that gives the employee some autonomy after falling out due to burnout. Therefore, combined interventions show promise: they allow the organization to develop a healthy work environment, while the employee can deal adequately with sporadic moments of stress. Social partners need to urge governments and policymakers to support research on burnout so that clear policies can be developed on the diagnosis and treatment of burned-out employees. In addition, preventive measures must be taken to reduce the psychosocial risks in the work environment to minimize the risk of burnout.

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