



## REVIEW ARTICLE

# Developing a conceptual framework for burnout intervention program in the workplace

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### ABSTRACT

This review proposes a comprehensive conceptual framework for developing and implementing burnout intervention programs in the workplace. In recent years, job burnout has become a new and vigorous research hotspot in the field of psychology and human resources management at home and abroad. Job burnout has a serious impact on personal health and performance but also harms the work efficiency, organizational effectiveness, and even social stability of employees. With the escalating concern over employee burnout and its consequent negative impacts on both individual health and organizational productivity, there is a pressing need for effective strategies to mitigate this issue. The framework draws on extensive literature review and theoretical model analysis, integrating key theories such as the Job Strain Model, Effort-Reward Imbalance Model, Conservation of Resources Theory, and the Job Demands-Resources Theory to explore the multifaceted nature of burnout. It identifies critical components of burnout, including symptoms such as emotional exhaustion, depersonalization, and reduced personal accomplishment, and contributing factors such as high job demands, inadequate job resources, and personal traits. Intervention strategies such as exercise have been identified as beneficial in addressing burnout. A systematic review of six studies highlights that aerobic exercise effectively lowers burnout and stress levels among employees. The framework also examines mediating factors such as personality traits and external factors, evaluating outcomes such as improved mental and physical health, enhanced job performance, and better workplace environment. Moreover, this review discusses the sustainability of interventions and emphasizes the importance of tailoring approaches to fit specific organizational contexts. The proposed framework provides a structured approach to understanding and addressing workplace burnout, highlighting the necessity for ongoing research and adaptation of intervention programs to meet evolving workplace dynamics.

**Keywords:** Employee, job burnout, intervention, health, exercise

## **INTRODUCTION**

Prior studies describe burnout as a condition characterized by emotional exhaustion, depersonalization, and inefficacy or a lack of personal accomplishment.<sup>(1)</sup> Emotional exhaustion is caused by the demands of a person's job. The emotional exhaustion component of burnout syndrome refers to a person who is emotionally and physically exhausted.<sup>(2)</sup> A conflict in an individual's occupational function, such as in human service job, where one must exhibit emotions that are conflicting with one's feelings, is also a crucial factor in the development of tiredness. Emotional exhaustion is the central quality of burnout and refers to feelings of being emotionally overextended and depleted of one's emotional resources.<sup>(3)</sup> Based on prior research, individuals experience more emotional exhaustion than the other two dimensions, making this area the most studied of the three.<sup>(4)</sup> Furthermore, studies have shown that emotional exhaustion is a key component of burnout syndrome.<sup>(5)</sup> The entire longitudinal chain, from bad working conditions to stress and burnout to withdrawal behaviors including sickness absenteeism, physical ailments, and persistent job incapacity, remains mostly untested empirically. Burnout, on the other hand, is thought to cause poor health and bodily sickness, according to burnout theories. The consequences of burnout may be physiologically mediated through immune system impairment<sup>(6)</sup> or changes in health behavior, such as alcohol drinking or sleep disruption. Besides that, burnout, as a chronic stress condition, can have a physiological impact on health by raising the allostatic load, which can alter cognitive, autonomic, and neuroendocrine function. The active process by which the body adapts to daily events and maintains homeostasis is known as allostasis. Allostatic overload is a condition in which allostasis is chronically disrupted or enhanced.<sup>(7)</sup> Furthermore, burnout has been associated with various mental and physical health problems, including anxiety, low self-esteem, sadness, vulnerability, irritability, headaches, backaches, lethargy, sleeplessness, and gastrointestinal problems. On the other hand, burnout causes behavioral indicators, such as absenteeism, poor work performance, employee turnover, tardiness, misuse of break time, and work theft.<sup>(8)</sup> Burnout and health are linked, according to indirect evidence.<sup>(9)</sup> Burnout has been linked to various cardiovascular risk factors,

including metabolic syndrome, changes in stress hormone levels, low-grade inflammation, immune system dysfunction, and blood coagulation and fibrinolysis. Burnout has also been connected to a few psychosocial antecedents of depression, heart disease, and musculoskeletal problems.<sup>(7)</sup> According to research, using substances to cope with burnout may exacerbate the situation for the individual.<sup>(10)</sup> Individuals who are burned out may express unpleasant emotions and withdraw from family and friends. Negative attitudes about clients, life in general, and the individual themselves are common. Co-workers' assessments of those suffering from burnout revealed that separating themselves from clients, isolating themselves from co-workers, and withdrawing from work were some of the signals that the individuals were suffering from.<sup>(11)</sup>

This review is aimed at analyzing the causes and relationships of variables of job burnout in four dimensions (Job Strain Model, Effort-Reward Imbalance Model, Conservation of Resources Theory, and the Job Demands-Resources Theory).

### **Burnout intervention program**

Does burnout intervention program have an impact on burnout or is there any causal relationship between burnout and burnout intervention program? The impact of exercise intervention program has been observed in various studies in the past. Based on this research de Vries et al.,<sup>(12)</sup> a randomized controlled trial (RCT) was done with students who were very tired from studying. They looked at how well a six-week exercise program helped reduce three signs of study-related burnout: emotional exhaustion, overall fatigue, and the need to rest. Researchers also looked at the effects of exercise on sleep, self-efficacy, physical fitness, and cognitive functioning, as well as how long the effects lasted (4 and 12 weeks after the end of the intervention). In a study conducted by Dreyer et al.,<sup>(13)</sup> the health of college staff after a 10-week exercise program was examined. Eighty-one people were given a pre-test on 22 variables, such as their physical fitness, biochemical status, mental health, and the way they looked. The Cooper points system was used to track and control the intervention program. Over ten weeks, the intensity of the exercise sessions was gradually increased, while the length of each session was shortened. The findings demonstrated significant correlations between change in training intensity and change in selected variables for those with both emotional exhaustion

and more than three risk factors of coronary artery disease in the experimental group. Individuals, organizations (for example, hospitals), or a mix of both can benefit from burnout intervention programs. Individual programs normally take a cognitive behavioral approach, intending to improve competencies, coping skills, and social support to reduce burnout. Organization-directed burnout reduction programs typically focus on improving the work environment, processes, and supervision, and lowering job demands. It has been suggested that combining the two programs improves burnout reduction.

One illustrative case study of a successful burnout intervention program is the implementation of a comprehensive wellness initiative at Mayo Clinic, documented by Shanafelt and Noseworthy.<sup>(14)</sup> This program focused on addressing the multiple dimensions of employee well-being, including physical, emotional, and social aspects, through strategies such as stress management workshops, team-building exercises, and leadership training. The results demonstrated a significant reduction in burnout rates among physicians, highlighting the effectiveness of multifaceted, organization-wide interventions. Besides that, Morse et al.<sup>(15)</sup> explored the impact of resilience training programs on nurses in high-stress healthcare environments. The study reported improvements in job satisfaction, reduced burnout symptoms, and enhanced resilience levels, underscoring the importance of equipping employees with personal coping strategies and resilience skills to mitigate burnout. Coulson et al.<sup>(16)</sup> examined the effects of health promotion programs in a university setting, integrating activities such as relaxation techniques, physical exercise, and nutritional counseling. The findings indicated improvements in staff members' mental health and a decrease in burnout symptoms, providing evidence that health promotion programs can effectively contribute to reducing workplace burnout.

### **Exercise reduces burnout**

There are numerous health advantages to exercising. "Body exertion for the purpose of establishing and maintaining physical fitness" is how exercise is defined.<sup>(17)</sup> Increased physical activity provides favorable physiological and psychological impacts. Amatriain-Fernández et al.<sup>(18)</sup> discovered that exercising caused the body to create more high-density lipoprotein (HDL) cholesterol and less low-density lipoprotein

(LDL) cholesterol, which help keep blood flowing and lower the risk of cardiovascular disease. Improved cholesterol levels also help the body regulate blood pressure more effectively. Besides that, regular exercise aids in weight loss, and improves muscle strength and bone density. Furthermore, Neira <sup>(19)</sup> showed that exercise can improve brain health and lower the risk of dementia. Regular exercisers have fewer cancer diagnoses and greater balance and coordination, which reduce the risk of falling. According to new research, regular exercise can enhance the immune system and lower illness risk. With increased exercise frequency, these long-term health benefits grow.<sup>(20)</sup>

### **Contribution of aerobic exercise to functional fitness**

Based on the literature reviewed, it was revealed that aerobic exercise led to an improvement in functional fitness of elderly adults.<sup>(21)</sup> Functional fitness can primarily bring balance to the body by transferring movement duty to the right muscles. Certain muscle groups compensate for their weaker counterparts, resulting in misalignment when backache is present.<sup>(22)</sup> Balance promotes excellent posture and core strength by enhancing muscular coordination and joint stabilization. Balance, agility, flexibility, strength, and endurance can be enhanced through functional exercise practice. As a result, patients will be better able to do normal tasks securely and effectively with a minimum chance of injury. Enhanced coordination between the nervous and muscular systems and an increase in energy are two additional advantages of functional fitness,<sup>(23)</sup> ultimately resulting in increased independence when doing daily activities.

In addition to making one a more well-rounded individual, functional fitness has a variety of other advantages. These include health, daily living, and athletic performance benefits. With the reduced injury risk by stimulating everyday activities, the body is more likely to be able to endure pressures.<sup>(24)</sup> Functional fitness training promotes the strength of muscles and ligaments, which are extremely injury-prone parts of the body. Additionally, by completing functional fitness activities daily, we not only improve muscle and core strength, but also exercise the brain, so enhancing the brain's memory. Besides that, aerobic exercise reduces stress directly by reducing physiological symptoms. It also

minimizes or buffers against the physical and mental disorders that are commonly connected with excessive stress or strain, and improves mental health as well.<sup>(25)</sup>

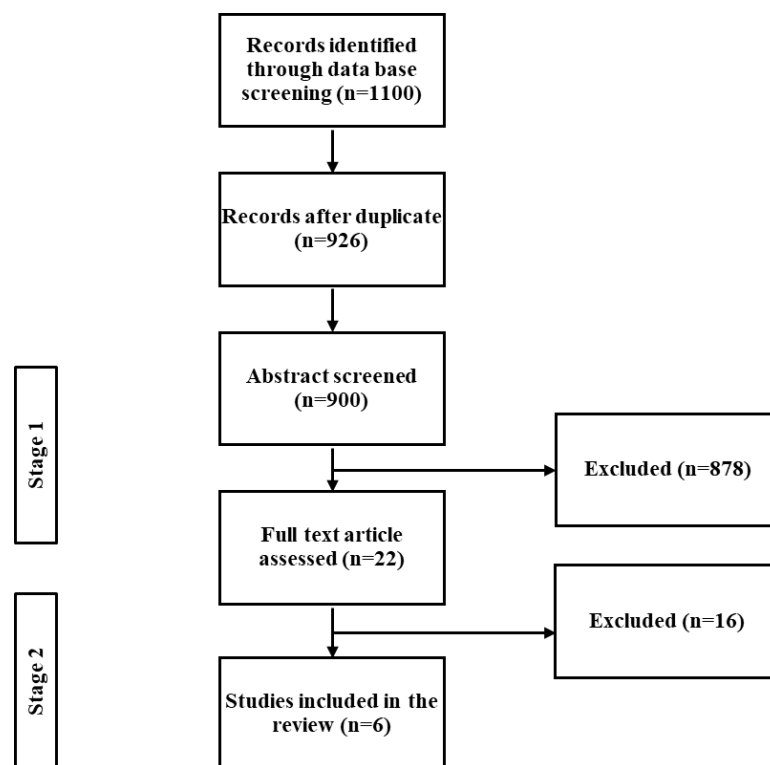
### Psychological benefits of exercise

Exercise can lead to both long-term and short-term psychological improvements, which are responsible for both psychological well-being and motivation to exercise. Reduced anxiety, increased mood, resistance to psychological strain, and reduced anxiety in the presence of a stressor were all found to have psychological advantages.<sup>(26)</sup> Furthermore, work-site exercise programs have been linked to increased self-motivation, optimism, positive affect, and health locus of control, as well as reduced anxiety, depression, absenteeism, and employee turnover.<sup>(27)</sup>

The present review on the effect of exercise interventions on employee burnout involved an extensive literature search across Science Direct, PubMed, and SpringerLink, focusing on keywords such as "burnout," "exercise," "aerobic exercise," and "aerobic training." Initially identifying 1100 articles, a detailed screening process was conducted for relevance, accessibility, and quality. This led to the exclusion of duplicates, and

inaccessible or off-topic studies, as shown in Figure 1. Ultimately, 6 articles remained, which collectively emphasized the significant role of physical activity in addressing workplace stress and burnout, showcasing the importance of exercise programs for enhancing mental health and well-being in the workforce (Table 1).

The six studies summarized indicate that aerobic and strength exercises have beneficial effects on reducing employee burnout. In Switzerland, a 12-week regimen at a private fitness center led to reduced burnout and improved mood states.<sup>(28)</sup> In Iran, a three-month program showed reduced occupational burnout, although benefits decreased post-intervention without continued exercise.<sup>(29)</sup> An Italian combined training program for eight weeks yielded significant reductions in burnout dimensions with high participant satisfaction.<sup>(30)</sup> In Taiwan, exercises tailored for office workers enhanced personal and work-related burnout metrics alongside physical health.<sup>(31)</sup> A New Zealand mixed training program over 10 weeks improved various health variables and reduced burnout and stress.<sup>(13)</sup> Lastly, in Ecuador, aerobic and strength exercises significantly decreased cynicism, inefficacy, and exhaustion, contrasting with increased exhaustion in the control group.<sup>(32)</sup>



**Figure 1.** Process of study selection

Table 1. Summary of articles that composed this review

Author(s)	Country	Aerobic exercise regime	Effect of exercise on burnout
Gerber M, et al. <sup>(28)</sup>	Switzerland	12-week exercise training in a private fitness center. Participants could choose their exercise frequency (2–3 times per week) and intensity, exercising for about one hour per session within 60–75% of their maximum heart rate.	Reduced overall perceived burnout. Improved profiles of mood states considerably after single exercise sessions, shifting towards an "iceberg profile" characterized by high vigor and low negative emotion states.
Mohebbi Z, et al. <sup>(29)</sup>	Iran	Three-month aerobic exercise program with three weekly sessions one hour each.	After completing the exercise program, the experimental group showed a significantly higher score than the control group, indicating reduced occupational burnout. Two months after the intervention ended, the score decreased, suggesting that the benefits of the exercise on reducing occupational burnout were not fully sustained without ongoing exercise.
Greco G <sup>(30)</sup>	Italy	Combined circuit resistance training and agility training (60 min, 3 days per week) at a local fitness center for eight weeks.	The intervention group experienced a significant reduction in emotional exhaustion, depersonalization, and perceived stress, and an increase in personal accomplishment, indicating a comprehensive improvement across all dimensions of burnout. The study noted high adherence to the exercise program (90.4%) and high levels of satisfaction among participants
Tsai HH, et al. <sup>(31)</sup>	Taiwan	Gymnastics designed for office workers (15 min) - Aerobic exercise (30 min) - Stretching (15 min)	Significant improvement in personal burnout, work-related burnout, and job demand scores among participants in both low and high intensity groups. Reduction in waist circumference and systolic blood pressure, indicating a positive physical health impact. A dose-response relationship observed with exercise intensity and improvement in burnout and metabolic syndrome components.
Dreyer L, et al. <sup>(13)</sup>	New Zealand	Combination of aerobic exercises (cycling, stair climber, treadmill running) and weight training, 4–5 days per week for 10 weeks.	Significant improvement in most physiological, morphological, and psychological variables. Positive impact even in individuals with burnout and stress. Reduced percentage of individuals with three or more CAD risk factors from 29.4% to 11.5%.
Rosales-Ricardo Y, Ferreira JP <sup>(32)</sup>	Ecuador	Aerobic group: jogging, walking, stationary bicycling for 30–50 minutes. Strength group: push-ups, squats, etc., for 30–50 minutes.	Aerobic group: reduced cynicism by 21.1%, inefficacy by 13.1%, exhaustion by 31.0%. Strength group: reduced cynicism by 27.4%, inefficacy by 21.7%, exhaustion by 19.6%. Control group: Increase in exhaustion and inefficacy, reduction in cynicism by 7.3%.

### Theoretical framework of burnout

#### The job strain and the effort-reward imbalance models

Several additional prominent hypotheses have been utilized in research on burnout. The two most influential models have been the job strain (or demand-control) model and the effort-reward imbalance (ERI) model.<sup>(33)</sup> The core premise of the Job Strain model is that a mix of high

expectations, limited control, and inadequate social support is perceived as stressful by an employee. The job strain model is distinguished from other work stress models by its simplicity and the extent to which it has become a paradigm in work and health research. Numerous studies have applied this paradigm to various physical and mental health outcomes, including cardiovascular disease, depression, and burnout.<sup>(34)</sup> The ERI

model is an additional effective paradigm for burnout research. The core notion of ERI is reciprocity: a mismatch between job effort and appropriate incentives will result in a stressful experience. Reward is characterized as money, esteem, professional chances, and security, while effort is claimed to have two components: intrinsic effort, resulting from personal motives, or external pressures, such as workload. Unlike ERI, which considers both extrinsic and intrinsic elements, the Job Strain model focuses solely on extrinsic issues. According to the ERI model, the burnout process begins when a worker perceives that his or her efforts are disproportionate to the satisfaction received and, as a result, can no longer justify or tolerate additional investment of effort.<sup>(35)</sup>

### **Job demand control model**

The job demand-control paradigm asserts that any work environment can be described by the combination of two dimensions: psychological work demands and the degree of control workers must acquire to achieve these needs.<sup>(36)</sup> The prediction of the job demand-control model can be summed up as follows: high work demands tend to lead to high levels of worker stress; however, having a high degree of control over one's job will help to buffer the stress caused by high work demands, thereby reducing the levels of work stress experienced by workers. This prediction is operationalized statistically by a strong demand-control interaction effect on outcomes related to work-related stress.<sup>(37)</sup>

Nevertheless, employees can reduce this stress by obtaining more control over their jobs and establishing excellent relationships with their co-workers and supervisor. The job-demand-control-support (JDCS) approach is effective when employees adhere to the following principles: i) gain control over one's job; ii) gain support from one's supervisor; iii) gain support from one's colleagues; and iv) increase one's psychological well-being.

Job-demand-control-support is a good instrument for determining why employees are stressed. There are also numerous possible interventions. When juggling multiple duties, for instance, employees can haggle with management regarding their degree of control latitude. If people feel powerless at work, they can raise the prospect of a more engaged position with management. There are numerous possible outcomes.

### **Conservation of resources theory**

Basic human motives, according to the conservation of resources (COR) theory,<sup>(38)</sup> is to create, protect, and cultivate their resource pools to protect the self and the social relationships that support the self. The theory presents a paradigm for preventing resource loss, preserving existing resources, and acquiring the resources required to engage in appropriate conduct. The COR hypothesis asserts that resources are the primary determinant of how humans perceive events to be stressful and define how individuals can deal with stressful situations. The COR theory can enhance people's understanding of stress and coping, particularly in complex learning contexts in which pupils have unequal access to resources, because of its strong connection to larger living conditions. Moreover, according to the COR theory, individuals who are already resource-poor will be more susceptible to loss spirals, whereas those who have ample resources will have greater opportunities for resource accumulation. Loss spirals, as described by Hobfoll and Ford<sup>(39)</sup> arise when resources are depleted and, as a result, are unavailable to deal with future-loss concerns, potentially leading to additional loss. Individuals, groups, and communities are more susceptible to the negative effects of continuous resource constraints after an initial loss. Those with higher resources will be more resilient, but persistent resource loss will challenge even those with abundant resources. Consequently, loss spirals are a potent force that manifests themselves in individuals and groups that lack resources.

### **Job demands-resources theory**

A core tenet of the job demands-resources (JD-R) theory is that distinct processes are activated by job demands, job, and personal resources.<sup>(40)</sup> High employment demands, such as an excessive workload, can lead to a health-deterioration process: high job demands, such as an excessive workload, result in persistent overexertion and, eventually, burnout. In contrast, resources result in a motivational process: a high level of job resources results in enhanced motivation, which in turn increases work engagement. In the end, job pressure, as evidenced by burnout, results in diminished job performance. In contrast, motivation—shown by being engaged—leads to higher job performance.

Job demands and resources also interact to predict strain and motivation. Bernstrøm and Kjekshus<sup>(41)</sup> alluded to the likelihood of such an

interaction in their research. However, given the lack of empirical evidence at the time, they focused on the major consequences. Later investigations have shown evidence of the interaction effects.<sup>(42)</sup> For instance, if an individual has a great deal of autonomy at work (a job resource), he or she is better able to manage a heavy task (a job demand). Thus, job autonomy mitigates the negative impacts of a heavy workload.

Additionally, the JD-R theory incorporates two self-reinforcing routes.<sup>(43)</sup> A positive self-reinforcing path, often known as a gain spiral, incorporates job creation. Individuals design their jobs when they proactively alter employment requirements and resources.<sup>(44)</sup> A junior scholar, for instance, can boost his or her job resources by requesting regular input from his or her supervisor. This re-establishes the positive self-reinforcing path, or “gain spiral”, as a result of the expanded employment resources.

### **Conceptual framework**

The proposed illustrated conceptual framework (Figure 2) was derived from the literature on burnout, cognitive functions, physical health, and non-communicable disease screening. This framework was created based on the theoretical framework and literature on burnout intervention programs conducted.

### **Developing the conceptual framework**

The proposed conceptual framework for the burnout intervention program in the workplace is structured to encompass multiple components that interact to influence the effectiveness of the intervention. This framework will: i) identify key components: outline the primary elements of burnout, including its main symptoms (emotional exhaustion, depersonalization, and reduced personal accomplishment) and contributing factors (such as high job demands, inadequate job resources, and personal characteristics); ii) incorporate theoretical models: integrate established models such as the job demand-control model, the effort-reward imbalance model, and the conservation of resources theory, to provide a theoretical basis for understanding the mechanisms of burnout and the pathways through which interventions can be effective; iii) highlight intervention strategies: detail specific strategies within the program, including cognitive-behavioral approaches, workload management, skill development, physical exercise regimes, and

organizational changes, all aimed at reducing the symptoms of burnout and enhancing employee well-being; iv) examine mediating factors: explore how personal characteristics (such as personality traits and years of service) and external factors (such as family demands and organizational culture) mediate the relationship between the intervention program and its outcomes; v) evaluate outcomes: define clear outcomes to be achieved through the intervention program, including reduced symptoms of burnout, improved physical and mental health, enhanced job performance, and better overall workplace environment; and vi) assess long-term impact and sustainability: consider how the intervention can be integrated into regular organizational practices and the long-term sustainability of its outcomes, including continuous assessment and adaptation of the program to changing workplace dynamics.

### **Job demands**

Job demands relate to all physical, psychological, and social aspects of the job that require prolonged physical or mental effort and, as a result, relate to psychological costs, such as emotional exhaustion, which is a basic dimension of burnout. It is assumed that job demands play a central role in the energy depletion process. These demands may deplete an employee's energy reserves in any work environment, resulting in stress-related issues that may lead to health concerns. Job demands is described as an aspect of work that needs long-term physical, emotional, or cognitive exertion, as it is related to bodily and psychological disorders.<sup>(45)</sup> Job demands are not always bad, but they can become a source of stress if they necessitate an excessive amount of effort to fix something that is not successful or accurate. However, long-term job demands may result in physical and mental disturbances, such as burnout.<sup>(46)</sup>

### **Family demands**

Additionally, economic issues might generate stress, which leads to burnout. Several economic factors contribute to increased stress, including poor financial management, high family expenditures, a constant need for money, a lack of income-earning potential, and slow personal financial growth.<sup>(47)</sup> For instance, rising family expenditures resulting from a rise in the cost of living, children's education, and healthcare place a significant burden on an individual, thus increasing stress levels. These are external

circumstances over which an individual has little control. Nevertheless, adopting a well-planned lifestyle and cultivating a sense of happiness can significantly reduce stress levels.<sup>(48)</sup>

## **MEDIATORS**

### **Personality traits**

Personality is the distinctive and stable state of an individual's inner psychology, thinking style, and outward behavior. Personality traits are an individual's distinctive personality as adapted to people, things, and themselves over their entire history. The dynamic psychological framework that governs an individual's ideas, feelings, and behaviors is personality. It is persistent and stable, which distinguishes the individual's thoughts, feelings, and behaviors. People with varied personality traits (such as personality and attitude) react differently to job burnout, which facilitates their environmental compliance. Today, employee burnout is one of the most critical causes of decreased productivity and loss of human resources. Malik revealed that there is a substantial correlation between personality traits and job burnout.<sup>(49)</sup> Personality traits have been impacted by aspects of burnout. Personality traits consist of five big factors, which were established by Sev<sup>(50)</sup> and are as follows: 1) energy/extroversion – the tendency for social contact and activity; 2) agreeableness – the disposition towards compassion and concern for others, as opposed to hostility; 3) conscientiousness – the inclination for goal-directed activity; 4) emotional stability – the capacity to effectively manage unpleasant emotions; and 5) openness – the experientially oriented tolerance for new ideas and ways of doing things.

### **Underlying diseases**

Many factors are associated with or related to burnout. Underlying diseases may be one of the factors that lead to burnout or worsen burnout. Most of the studies conducted did not measure the underlying disease that could be the control variable of burnout. Dall'Ora conducted a study to investigate the prevalence of burnout among nurses. The study concluded that there was no association between underlying diseases and burnout.<sup>(51)</sup>

### **Years of service**

Thomas and Zacharias<sup>(52)</sup> observed that older age and longer tenure were more likely to be correlated with higher rates of burnout. It was expected that emotional weariness and depersonalization were correlated with increasing years of work experience. Long-term workers reported greater weariness, more negative attitudes towards their work, and a diminished perception of success.<sup>(53)</sup> They do not employ proactive techniques to address the obstacles they face every day over this lengthy period of labor. At this point, they feel fatigued, depersonalized, and worn out.

## **CONTROL VARIABLES**

### **Age**

The relationship between age and burnout is rarely investigated in scientific research. In Kazakhstan, a cross-sectional study was undertaken among firefighters.<sup>(54)</sup> The association between age and burnout was examined in three age groups by gender: 18–34 years (young), 35–49 years (middle-aged), and 50–64 years (aging). The odds ratio and 95% confidence interval of age as the continuous variable for burnout were computed using logistic regression models that were also adjusted for marital status, education level, employment status, working hours, and work. Based on the result, the research concluded that age and work duration might not predict any of the studied three dimensions of burnout.

### **Gender**

One could assume that women have undoubtedly suffered from job burnout more than men. A meta-analysis was conducted to explain gender differences in burnout by concentrating on women's subjective gender role expectations or desires.<sup>(55)</sup> The study concluded that women did not experience higher burnout as a result of working more at home, spending more time caring for children, anticipating job loss, working in jobs where they are underrepresented, or finding it difficult to grow in their careers. Women's tendency to experience greater job-related burnout than men cannot be explained by typical demographic and occupational factors, such as race, age, education, marital and parental status, fringe benefits, tenure, hours worked, or salaries.



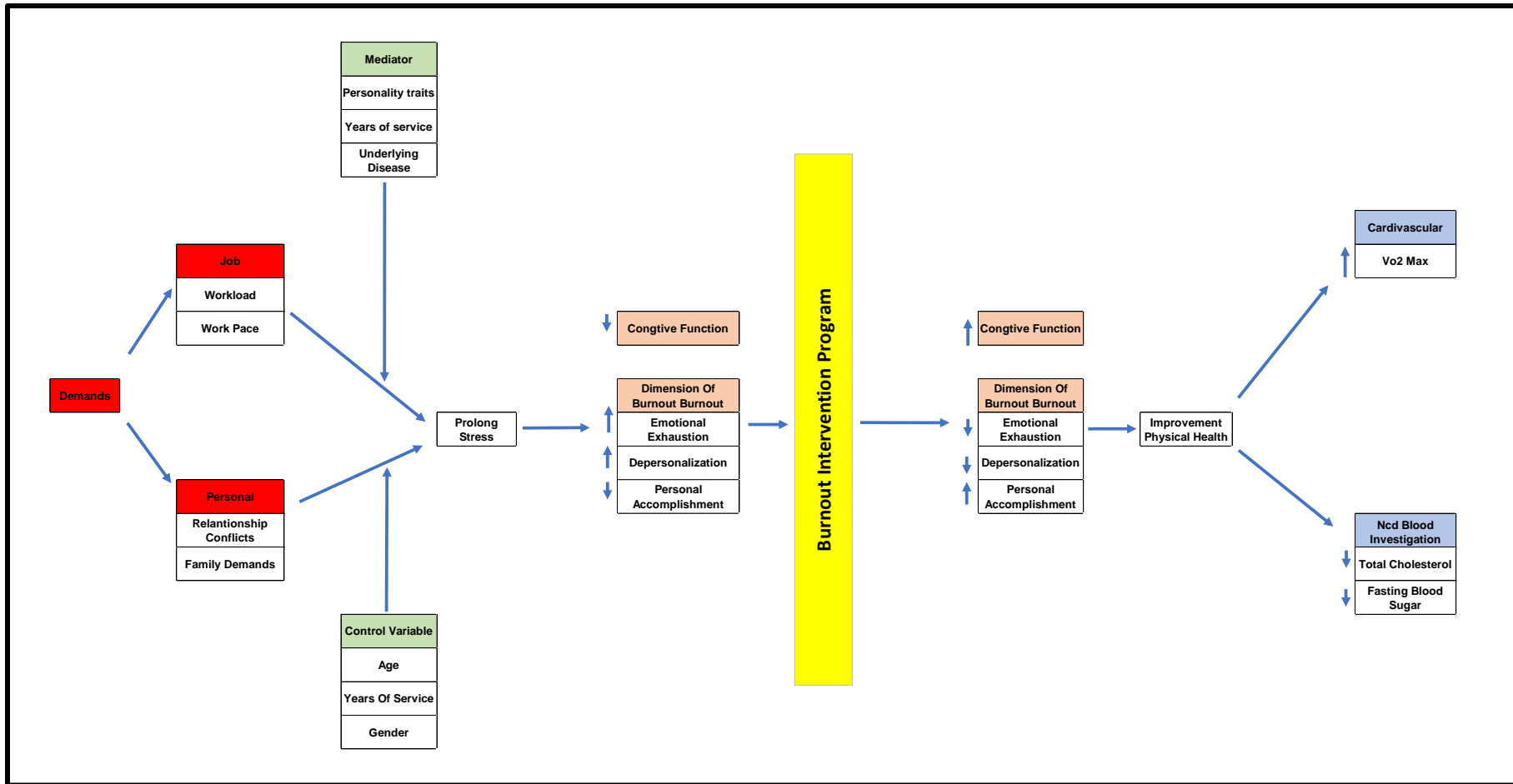


Figure 2. Conceptual framework of burnout intervention program

### **Specifics of burnout intervention program**

Exercise programs and techniques were adopted by the latest guidelines for prescribing exercise. Three components of exercise are carried out in this intervention program: i) warm-up exercise; ii) aerobic exercise; and iii) cool down exercise.

## **OUTCOME**

### **Physical health and metabolic syndrome**

Job burnout is characterized by three fundamental states: mental, physical, and behavioral. Physical pressures can manifest as damage in numerous organs, such as cardiovascular, gastrointestinal, and respiratory disorders. Taking into consideration other risk variables, employees with chronic burnout are more than twice as likely to develop the syndrome than employees without work burnout.<sup>(56)</sup> Employees who engage in regular physical activity can minimize their chance of developing metabolic syndrome (high blood pressure, diabetes, and high cholesterol).<sup>(57)</sup> Metabolic syndrome (MetS) is a multiplex risk factor for atherosclerotic cardiovascular disease. It comprises atherogenic dyslipidemia (higher triglycerides and apolipoprotein B-containing lipoproteins and low high-density lipoproteins [HDL]), increases in blood pressure (BP) and hyperglycemia, and prothrombotic and proinflammatory conditions. Job burnout has been acknowledged as a risk factor that affects the development of metabolic syndrome as produced by negative changes in the workplace and is referred to as the adverse physical and emotional responses that arise when workers are incapable of fulfilling their job requirements.<sup>(58)</sup>

### **Integrative analysis of theoretical models and empirical evidence in burnout**

To further elaborate on this framework, an integrative examination of the empirical evidence underpinning each theoretical model reveals their unique contributions and interactions within the burnout context. The job strain model posits that high job demands coupled with low control can lead to stress and, ultimately, burnout. This model's utility in explaining burnout is complemented by the effort-reward imbalance model, which introduces the concept of imbalance between the efforts an employee expends and the

rewards received as a further stressor contributing to burnout.<sup>(59)</sup> A comprehensive meta-analysis by van Vegchel et al.<sup>(60)</sup> underscores the independent predictive value of these models for health outcomes, advocating for their combined application to achieve a richer understanding of burnout dynamics.

Further supporting the multifaceted nature of burnout, the conservation of resources theory offers a perspective on how the loss of valued resources can precipitate the burnout process. Empirical validation by Halbesleben and Bowler<sup>(61)</sup> through longitudinal analysis highlights the detrimental effect of resource depletion over time on employee well-being. This evidence suggests that interventions aimed at preventing resource loss or facilitating resource recovery can be pivotal in mitigating burnout. Schaufeli and Bakker<sup>(62)</sup> empirically demonstrated how the interaction between demands and resources plays a critical role in either amplifying or attenuating burnout symptoms. This model's dual-pathway approach underscores the need for intervention strategies that simultaneously reduce job demands and augment job resources to combat burnout effectively.

### **Practical implications on various work settings**

The practical implications of the conceptual framework extend across diverse workplace settings, offering a versatile approach to addressing the multifaceted nature of burnout. This framework provides a structured yet adaptable blueprint for organizations seeking to mitigate the adverse effects of burnout on employee well-being and organizational performance. Its comprehensive nature allows for tailored interventions that align with specific organizational cultures, job demands, and employee needs, fostering a proactive approach to burnout prevention and management. In healthcare settings, where staff often face high emotional and physical demands, the framework can guide the development of resilience training and stress management programs tailored to the unique pressures of medical professions.<sup>(63)</sup> For the corporate sector, characterized by intense competition and high workloads, the framework's emphasis on balancing job demands with adequate resources and rewards can inform strategies to enhance employee autonomy and recognition, thereby reducing burnout risk.<sup>(64)</sup>

Educational institutions can apply the framework to support teachers and administrative staff through professional development opportunities and initiatives that promote work-life balance and job satisfaction.<sup>(65)</sup> In technology and startup environments, where rapid change and innovation pressures prevail, the framework's focus on job resource enhancement and effort-reward balance can guide the implementation of flexible work arrangements and continuous learning opportunities. Furthermore, non-profit organizations, often operating with limited resources, can leverage the framework to foster a supportive organizational culture and volunteer engagement strategies that compensate for material resource constraints, enhancing employee engagement and reducing burnout.

## CONCLUSION

This review looked at what burnout is, what its main dimensions are, what models have been proposed to describe and explain this syndrome, what its antecedents and consequences are, what tools allow for its evaluation, and how it can be evaluated and intervened upon at both the organizational and individual levels. Burnout is currently a significant concern for individuals, organizations, and the larger community. This illness has reached pandemic proportions worldwide among employees, accompanied by worrisome rates of depression and suicide ideation. New technologies, mobile devices, and the absence of borders prohibit disengagement and the necessary recovery from work. Nevertheless, burnout is not an unavoidable syndrome. It can be prevented and treated before it manifests. Solutions frequently target individuals rather than organizations, even though organizational problems, such as job overload and position ambiguity, are the primary causes of this disease.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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## Author Contributions

SK - contributed to the conceptualization, methodology, formal analysis, investigation, resources, data curation, writing - original draft preparation. BMS - contributed to reviewing and editing, visualization, supervision, project administration. Both authors have read and agreed to the published version of the manuscript.

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## Data Availability Statement

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

## Declaration of Use of AI in Scientific Writing

No artificial intelligence was utilized in the writing of this scientific manuscript.

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