


# Associations and Correlations of Job Stress, Job Satisfaction and Burn out in Public Health Sector

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**Citation:** Adamopoulos, I. P. and Syrou, N. F. (2022). Associations and Correlations of Job Stress, Job Satisfaction and Burn out in Public Health Sector. *European Journal of Environment and Public Health*, 6(2), em0113. <https://doi.org/10.21601/ejeph/12166>

## ARTICLE INFO

Received: 8 Apr. 2022

Accepted: 28 May 2022

## ABSTRACT

A literature review of proposed associations and correlations of job stress, job satisfaction, and burn out in public health sector. Evidence of occupational hazards job risks that are encountered by Greek public health workforce, limited global literature. Connection of occupational job stress, job satisfaction, and burn out health and safety with public health and hygiene. Provided evidence of the exact risks that are perceived in public health sector in Greece. Comprehensive relative to possible occupational hazards of public health organization and services, with established and new evidence include organizational job risks. During the COVID-19 pandemic, global financial crisis, job insecurity, decreased salaries, and social instability where working conditions changed, risk factors were affected, risk increased, and interpersonal working relationships had a particular impact under the period of the pandemic, especially for health professionals who were in the frontline. This study can bear a significant impact and with the help of various reviews we give the global associations and correlations of job stress, job satisfaction, and burn out in public health sector. A systematic review conducted on the recent period for the last decade published papers along in Scopus, Web of Science, Direct Science, and journals. There are very few papers are published based on the very contemporary title considered for the article hence this study identified several articles in the scientific literature, but only few articles were classified as eligible according to the previously established criteria.

**Keywords:** risks associations and correlations, job stress and job satisfaction, burn-out and public health, occupational hazards, COVID-19 pandemic, occupational public health

## INTRODUCTION: JOB SATISFACTION, JOB STRESS AND BURN OUT

### Job Satisfaction

Job satisfaction fulfilment might be characterized as a worker's emotional state which covers the total scope of feelings from good to negative. Furthermore, job satisfaction can likewise be depicted as a good inclination about a vocation or experience related to work. Fisher (2000) argued that job satisfaction is a sort of mentality and perspectives, that for the most part contain affective and cognitive components.

Occupation fulfilment can be viewed as the after effect of a chain response including the inspiration to fulfil a need. This chain consolidates a few elements which impact or instigate a person to perform (Dawal and Taha, 2006).

Maslow's motivation theory suggested that human motivators depend on needs that start in a rising request from

the most reduced level to the most significant level. This hierarchy begins from the lowest level of physiological necessities, wellbeing and security, social needs to more elevated level needs, for example, self-fulfillment needs.

People can not move to the following more elevated level until all needs at the lower level are fulfilled. At the point when one lot of requirements is fulfilled, it no longer filled in as a motivation (Anbazhagan et al., 2013). Herzberg's motivation-hygiene theory is a two-factor theory, which points out that satisfaction and dissatisfaction are distinct constructs and are not on a single continuum, meaning that the opposite of job satisfaction is not dissatisfaction and vice versa. So, job satisfaction and dissatisfaction may be present at the same time.

Herzberg separated the needs of an individual in two groups, namely motivators, that refer to psychological growth (recognition, promotion, etc.) and hygiene factors that relate to biological needs (salary, security, working conditions, etc.). Based on this taxonomy, Herzberg argued that hygiene factors

relate to job dissatisfaction while to accomplish satisfaction, the motivators play a more important role (Hee et al., 2018).

### Job Satisfaction Concept

Job satisfaction is one of the critical issues in organizational psychology, mainly because it is considered directly related to both the mental health of the workforce and the interest of companies to have high productivity. In many cases, stable, stable, and satisfied staff. Job satisfaction is often defined as an individual's emotional response to work but is usually measured as an assessment of job performance combined with either internal or external benchmarks, according to Spector (1997).

The term job satisfaction describes how satisfied a person is with their job. Fisher (2000) and Hulin and Judge (2003) argue that job satisfaction is a behavior and all behaviors are either emotions or judgments (Kidd, 2006). According to Spector (1997), job satisfaction indicates how people like or dislike their job. Job satisfaction includes three general areas:

1. The values that a person has or wants;
2. The perception that the operating company meets of these values; and
3. The relative importance of these values for the individual according to Locke (1970).

Satisfaction can be divided into two categories: intrinsic satisfaction and extrinsic satisfaction (Spector, 1997). Inner satisfaction refers to the nature of work tasks and people's feelings about the work they do. External satisfaction refers to other aspects of the job such as pay, benefits, promotion system, etc. The degree of job satisfaction is a critical element that organizations calculate. The most common way to measure is to use rating scales, where employees report their views on the job (Tietjen and Myers, 1998).

There are several factors that can affect the individual level of job satisfaction, such as the level of pay and other economic benefits, fairness in the promotion system, the quality of working conditions, leadership, and social relations between employees as well as characteristics of the specific job (variety of tasks, interests and opportunities, requirements, etc.) (Tietjen and Myers, 1998).

Job satisfaction as a concept is not synonymous with motivation, although these two concepts are closely related. Job planning should promote job satisfaction and performance in rotation, job enlargement, and enrichment. Other factors that affect job satisfaction are the way and form of management, employee participation, and creating and strengthening autonomous working groups (Arvey et al., 1989).

Hoppock's (1935)'s research is essential for measuring job satisfaction. Hoppock (1935) used scales in which the respondent was asked to answer whether he liked his job, choosing a statement from seven alternatives.

The alternatives that were given started from "I love her" and reached "I hate her." Other research conducted later used many questions and referred to many different aspects of the professions. The most common areas of job satisfaction found in the literature are, as follows (Aziri, 2011):

1. Satisfaction from the company and the management.
2. Satisfaction from superiors.
3. Satisfaction from colleagues.
4. Remuneration from the fee.
5. Satisfaction with working conditions.
6. Satisfaction with the object of work.
7. Satisfaction with promotion opportunities and status.

For a company, mainly for organizational reasons, it is essential to know which employees and in which sectors are satisfied with their work and which are not. They can learn this by providing questionnaires covering many areas of work and organization or by the open-ended question method, where subjects freely express their opinions (Aziri, 2011).

Although many studies have shown that job satisfaction consists of many sub-factors, recent research supports the fact that these factors are related to each other in such a way as to compose the overall factor of job satisfaction. For example, Arnolds and Boshoff (2003) has shown that employees who are satisfied in one area of their job tend to be in others.

### The Importance of Job Satisfaction

Different approaches are depending on the focus on the employee or the company. First, the humanitarian approach, according to which all people deserve to be treated fairly and respectfully. In this sense, job satisfaction reflects to some extent the excellent treatment one has in the workplace. It can also be considered as a sign of emotional well-being or good mental health. Second, the utilitarian approach according to which job satisfaction can lead to behaviors that affect the operation of the whole business (Spector, 1997).

Spector (1997) states that there are two approaches to the study of job satisfaction: first, the global approach that treats job satisfaction as a unique, holistic approach to work, and second, the approach that focuses on its various aspects such as rewards (salaries and allowances), opportunities for promotion, workplace communication, safety, inspection, employers and co-workers, working conditions, and the nature of the work itself.

This second approach gives a complete picture of job satisfaction because it is possible for an employee to be dissatisfied with one aspect of his job; for example, he considers that he is not paid as he deserves but to be satisfied with another aspect, e.g., communication with colleagues and working conditions. Job satisfaction is, therefore, universal awareness of work related to various dimensions of work such as the nature of the work itself, pay, benefits, promotion system, working conditions, recognition, communication, personal development, security, co-workers, supervision, employer, company policies, and procedures; and reflects how people feel about work in general and their work in particular (Rice et al., 1991).

The study of job satisfaction is fascinating because it is related to organizational commitment, job performance, frequent turnover, absences, health and well-being, and life satisfaction (Spector, 1997). Employees with higher levels of job satisfaction find it more challenging to look for work elsewhere or leave their job. Employees who are dissatisfied

with their current job are more likely to seek employment elsewhere.

### Factors That Affect Job Satisfaction

What makes employees feel satisfied with their work? What pushes them to a confident attitude? Ali (2008) states that much research has been done on this subject, some of which are related to the environment (satisfaction) and satisfaction, others focus on personality (personality) that is, certain types of people have a tendency, predisposition to love or not their work and finally other research considers that there is an interaction between environment, personality, and job satisfaction.

### Environmental Factors

The environmental factors that affect job satisfaction are job characteristics, pay, and justice in the workplace (Spector, 1997). Other factors that affect job satisfaction are

1. frustration and alienation,
2. technology,
3. meaningfulness,
4. supervision,
5. work and psychological well-being, and
6. role incongruence and role conflict.

Interpersonal relationships with co-workers and bosses and the boss's attitude play an important role in creating job satisfaction (Johns, 1996; Scarpello and Campbell, 1983).

The characteristics of the job refer to the content and nature of the job tasks. These characteristics, according to Hackman and Oldham (1976), are

1. the variety of skills required to perform a task,
2. the task identity, i.e., it matters if the employee does all the work,
3. the importance of the task (i.e., the influence that the employee has on his work to others),
4. the autonomy (i.e., the freedom that the employee has to do the job as he means correctly and finally, and
5. task feedback, i.e., the degree to which it is evident to employees that they are doing the job correctly.

The above five characteristics constitute the complexity of the work (scope).

High complexity leads to job satisfaction, while low complexity leads to dissatisfaction and boredom. Therefore, their theory is based on the assumption that employees are motivated by the internal satisfaction they receive while performing their job duties. The combination of the variety of skills, the task's identity, and the importance of the task lead to realizing the importance and value that the work has. Autonomy leads to responsibility, and feedback results in knowing the results to take corrective action if needed (Hackman and Oldham, 1976).

The theory of job characteristics says that employees will be more satisfied and motivated when they do a high complexity job, which interests them and is full of challenges. According to the theory of Hackman and Oldham (1976), five characteristics determine the potential magnitude of the transient power of work, i.e., the degree to which it can cause

intrinsic motivation in the employee. Transient power is calculated from the following formula (Hackman and Oldham, 1976):

Transient power = (Variety of skills + Project identity + Project significance / 3) × Autonomy × Feedback.

The theory of job characteristics argues that people who prefer challenge and interest in their work will be happier and more motivated if they have complex tasks. Such people are likely to avoid elementary tasks and prefer administrative or other tasks that involve a greater degree of complexity, according to Spector (1997).

Much research has found that the broader the content of the work, the greater the satisfaction that employees derive from it. The content of a job refers to several individual dimensions that are determinants of job satisfaction. When work provides the employee with opportunities for growth, achievement, responsibility, autonomy, recognition, and feedback on production, it offers the challenges needed to meet his expectations and contribute to self-fulfillment and self-fulfillment (Johns, 1996).

It has also been found that there is a positive relationship between the ability of employees to have control over their skills and abilities and the ability to take initiatives, with job satisfaction, since under these conditions people experience their work as something important in which they have personal complication according to Spector (1997). Even promotion opportunities affect job satisfaction; it has been found that when these are sufficient, the professional satisfaction of employees increases, and this is because promotions contain some crucial indications for the self-esteem of a person so material (such as accompanying increase) as well as social in nature (such as in-company recognition and increased social prestige).

Finally, some other dimensions that have been found to have a research effect on satisfaction are working conditions (heat, noise, cleanliness, lighting), working hours and leisure time that the employee can provide, safety, integrity, and performance provides a job. Benefits include vacations, retirement entitlements, and other benefits, as reported by Johns (1996).

### Personal Factors

Personal factors include both the personality and personal characteristics of the employee as well as his previous experiences and values. Job satisfaction is influenced by the experiences and emotions that people experience both in the workplace and their personal lives. Pleasant experiences and positive emotions create a positive attitude towards work, and if other conditions are met in the workplace, they can lead to job satisfaction. This means that even if one has an excellent job in salary, benefits, security, one may not have high job satisfaction.

In addition, two people doing the same job, or even the same person over time, may experience different levels of job satisfaction. Hoppock (1935) found a strong relationship between employees' emotional adjustment and the level of job satisfaction. Even demographic characteristics such as age, gender, level of education, position, marital status, years of service, working hours significantly affect job satisfaction. We,

therefore, find that job satisfaction is subjective and influenced by personal experiences and expectations.

Concerning the level of education, it has been found (according to the proponents of the theory of equality) that it affects professional satisfaction. If two people of different educational backgrounds hold the same job, with the same pay, the same responsibilities, the same duties, the more educated person is expected to be less professionally satisfied because he/she considers that he/she contributes much more to the same job of him and nevertheless he owes himself the same. Awareness of this inequality brings professional dissatisfaction. In addition, training has been found to harm job satisfaction as a high level of education creates higher expectations for the employee, who experiences dissatisfaction when performing routine tasks.

On the other hand, the mental level, which is related to education, does not seem to affect job satisfaction per se, while in combination with the type of work, it seems to be an essential factor of job satisfaction (Johns, 1996).

According to Spector (1997), the pay level is related to job satisfaction to a lesser extent. What matters is establishing a fair and transparent remuneration system and, more generally, a fair working environment for the system of promotions, remuneration, and rewards. Money is not an incentive; however, people need to know that the pay and promotion procedures are based on fair and equitable standards (Johns, 1996).

There are five types of people who exhibit different job satisfaction behaviors. These are

1. the neurotic, who generally has a negative character and because of this character it is possible to get involved in unpleasant situations and experience negative experiences in the workplace and therefore show reduced job satisfaction,
2. the extrovert who has a predisposition to experience positive emotions, has more friends and socializing and is, therefore, more likely to experience job satisfaction,
3. the "open" to experiences who tends to feel good and evil however this behavior-his attitude is not significantly related with job satisfaction,
4. the receptive one who has the greatest motivation to achieve interpersonal intimacy and thus leads to higher levels of well-being; however, job satisfaction is related not positively but to a lesser extent and
5. his conscientious or related satisfaction.

Conscientiousness is related to job satisfaction because it generally represents a tendency to participate-develop in work. This behavior leads to a greater likelihood that the conscientious will have good rewards such as salary, promotion, respect, self-fulfillment, recognition, etc.

### Employee Dissatisfaction Model from Their Work

Rusbult and Farrell's (1985) general model of employee dissatisfaction with their work is used to assess employees' reactions-behaviors when their job satisfaction increases. There are four general categories of reactions: exit, voice, loyalty, and neglect described and explored. Data from the federal employee attitude survey, 1979 (cited in Daley, 1992)

are used to assess the predictability of Rusbult and Farrell's (1985) model.

According to the model, high levels of job satisfaction and a higher degree of investment reinforce the tendency for "voice" and "faith" while strengthening the tendency for "retirement" and "negligence".

Also, higher quality work alternatives promote exit/voice behaviors/reactions by inhibiting the tendency for neglect behavior. The four categories of behaviors-reactions when employee satisfaction is reduced (dissatisfaction) are analyzed (Rusbult and Lowery, 1985).

1. **EXIT**-Behavior leaning towards leaving the organization, the employee is looking for another job, he is thinking of resigning.
2. **VOICE**-Dynamic behavior seeks to improve conditions, proposes improvements, discusses problems with employers, believes in the effectiveness and success of other colleagues' actions, complains, seeks help from another external organization, participates in union activities.
3. **LOYALTY**-Passive behavior waits for conditions to improve, agrees to public and private support from an external organization, supports the company in external criticism, trusts the company and its employees in "do the right thing," strengthens its prestige.
4. **NEGLECT**-Passive behavior lets conditions get worse, describes the behavior of chronic absence and delay, creates a negative attitude towards work, reduced effort, makes an increased error rate, and is lazy.

These four categories differ between the two directions: constructiveness/destructiveness and activity/passivity (Rusbult and Lowery, 1985).

Voice and loyalty behaviors refer to constructive behaviors-creative employees, who offer, maintain satisfactory working conditions, while exit and neglect behaviors are relatively more destructive. According to problem management, exit and voice behaviors are active (employees act on their work environment), and loyalty and neglect behaviors are more passive behaviors (Rusbult and Lowery, 1985).

The exit and voice categories are distinct, while the loyalty and neglect categories are indistinguishable. Although loyalty and neglect reactions are more passive behaviors, they are distinguished, as follows:

An employee's loyalty behavior passively avoids problems as he continues to do his work, promoting the company's goals despite his dissatisfaction with the work. In contrast to the behavior of an employee who belongs to the neglect category, where while trying passively to deal with a problem, it fails to advance the company's goals, it slows down the effort, and its absence and delay is noticeable (Rusbult and Lowery, 1985).

The categories exit, loyalty, neglect are more helpful in characterizing the behaviors of employees working in the private sector and are significant behavioral characteristics for implementation by employees in the public sector (Rusbult and Lowery, 1985).

## RELATIONSHIP BETWEEN JOB SATISFACTION AND PERFORMANCE

Job satisfaction must be linked to performance. After all, a happy employee is a productive employee. Although there is a general perception that satisfied employees are also performing better, the data simply do not support such a position (McCormick and Ilgen, 1985).

Many studies have highlighted the fact that the correlation between the above two variables is at least moderate. The size of the correlation between job performance and job satisfaction is surprisingly tiny. However, job satisfaction is very likely to lead to job performance, as it turns out that people who are happy with their job seem to be more motivated, work harder and perform much better. A more robust indication of this is that people who perform better enjoy their work more because of the wages often associated with good performance (Leung et al., 2000).

What is less clear is why satisfaction is not related to performance (Fisher, 2000). There is a view according to which work attitudes are not related to performance. Another position argues that satisfaction and performance are linked but under certain conditions (i.e., when performance is not limited and not controlled).

Herman (1973) notes that job satisfaction should be linked to performance (and any other behavior) only when other influences on behavior are absent (Kidd, 2006). Complex behaviors, such as those representing job performance, are often influenced by other factors without this, meaning that job satisfaction does not play a significant role in performance (McCormick and Ilgen, 1985).

As Vroom (1966) points out, the only reason employees often strive for better performance is to avoid being fired. One of the reasons for this low correlation may have to do with the performance measurements available in many surveys. Most surveys rely on performance assessments by supervisors, which are subject to many limitations.

Supervisors often make evaluation mistakes, especially when the evaluations are made for organizational purposes. This can lead to inaccuracies in the findings of performance appraisals, which in turn introduces other statistical errors. Satisfaction-performance relationships are stronger when more accurate performance metrics are used (Kidd, 2006).

Although it is clear that performance and satisfaction are linked, there are two conflicting interpretations. First of all, satisfaction can lead to performance. This means that people who like their job work harder and therefore perform better. Then, performance may lead to satisfaction as the people who perform best are the ones who benefit from that performance, and these benefits can enhance satisfaction. A person who performs well is more likely to receive recognition and pay, increasing job satisfaction. Satisfaction leads to the effort, which leads to performance, and finally, performance leads to rewards that lead to satisfaction (Kidd, 2006).

Prasanga and Gamage (2013) noted that the correlation between job satisfaction and job performance is higher in jobs where good performance is poor, while in jobs where this is not the case, it is shallow. Under these conditions, the employees

who are paid receive remuneration, which leads to job satisfaction. Based on their predictions, Jacobs and Solomon (2003) found that performance at work and job satisfaction were more correlated when organizations used to pay due to good performance (Leung et al., 2000).

Caldwell and O'Reilly (1990) provided compelling evidence that job performance can lead to job satisfaction. They showed that an employee's response to job requirements is another element of job satisfaction. At this point, it is also worth noting that people who can do their job correctly and perform satisfactorily tend to score higher job satisfaction.

Vroom (1966) argues that those involved in human relations believe that job satisfaction and performance are positively correlated. The author cited 20 studies investigating the relationship between job satisfaction and performance, and the results were contradictory. The results from the 20 studies ranged from  $r=.86$  to  $r=-.31$ .

In a recent literature review, Judge et al. (2001) provided the most comprehensive literature review to date. Review the literature on the relationship between job satisfaction and performance to evaluate the literature and identify potential gaps and weaknesses in previous studies. This analysis included 312 samples. The results of this analysis made it possible to categorize the studies into seven models. Describing the suggested relationships between job satisfaction and performance, Judge et al. (2001) reported that the first six models' findings yielded contradictory and contradictory results.

In an earlier meta-analysis by Iaffaldano and Muchinsky (1985), the results showed that the correlation between job satisfaction and job performance was relatively low ( $r=.17$ ). The findings made by Judge et al. (2001) argued that Iaffaldano and Muchinsky (1985) argue that empirical documentation of the relationship between job satisfaction and performance does not support the general notion that logically and intuitively we believe that there is a correlation between job satisfaction and performance (Kidd, 2006).

Judge et al. (2001) found the real correlation, which is slightly higher than Iaffaldano and Muchinsky (1985)  $r=.30$ . Each of the seven categorization models presented by Judge et al. (2001) demonstrate different results. The first three models illustrate the causal relationship between job satisfaction and performance.

Model 1 states that job satisfaction is the cause of job performance, while model 2 suggests the opposite. Model 3 illustrates the interrelationship between the two variables. Models 4 and 5 demonstrate the influence and relationship from external variables. Model 6 does not show any relationship between the variables. Model 7 incorporates the "affect" variable. This model illustrates the potential relationship between job satisfactions, affect, and job performance (Kidd, 2006).

In the meta-analysis made by Judge et al. (2001), the relationship that prevailed most was between job satisfaction and job performance. As mentioned, the relationship between these two variables is weak. Job satisfaction seems to have a stronger relationship with other variables such as company performance.

## STRESS

Stress is a complex term to define, both because of its subjectivity and its complexity. This is evidenced by the fact that it has been studied by several different fields of science (medicine, sociology, business administration, and psychology), which have proposed their methodologies and models (Le Fevre et al., 2003).

The first observation of stress and its effects comes from the medical industry, where in the late 1980s, it was observed that patients at the beginning of their illness all had the same specific symptoms (Fink, 2016).

Stress, therefore, was defined as an indefinite bodily reaction to any requirement (Fink, 2016). In this early analysis of stress, three sub-stages were identified, based on Selye's (1956) "general adjustment syndrome". In the first stage, that of the alarm response (alarm), the body responds to stressors with the first signs of bodily changes and activated defense processes. In the second stage, if the stressor does not disappear and the body begins to adapt, the phase of stress resistance is activated. The third stage of burn out occurs after prolonged exposure to stressors and can even result in death (Ivancevich and Matteson, 1980).

Apart from the medical point of view, stress has also been defined from the behavioral point of view as an adaptive reaction, which is regulated by the individual and is the result of every action, situation, or event, which places unique demands on a person, and which is perceived. A disproportion between the requirements and its ability to meet those requirements (Anbazhagan et al., 2013). Therefore, stress can lead to psychological, physical, and behavioral reactions, leading to severe or even less severe health problems.

### Theories of Job Stress

From the beginning, stress has been recognized as a phenomenon related to individual perception, as stress stems from the individual's perception that he cannot fulfill the requirements assigned to him (Lazarus, 1966; Mackay et al., 1978). Researchers such as Lazarus and Lazarus (1991) specifically argue that there is a direct correlation between emotions and stress, both of which are not influenced by external factors but by the individual's relationship with the external environment, which changes under different conditions. This also explains the differences in the reaction that a person may have to a situation and the objective reality of the event.

Freudian analysis of stress includes it as a threat to the ego and is the source of nervousness. The analysis of Lazarus and Lazarus (1991) is essentially based on Freud's analysis of the demands made by the superego and the rupture (imaginary or real) with the parents (or internalized values). In any case, we have to differentiate between moral (superego requirements) or neurotic stress and the stress of reality, which has to do with how the person perceives reality.

Lazarus and Lazarus' (1991) theory on stress assessment and management sets two levels of stress assessment: primary and secondary assessment (Lazarus and Folkman, 1984). So the stress stems from the assessment that the person makes under specific environmental requirements, which he

considers threatening his resources and consequently his "well-being." Primary assessment refers to the individual's assessment of the situation and the personal importance it attaches to it.

The secondary evaluation focuses on the individual's measures and the resources he needs to consume (Dewe et al., 2012). The treatment starts from the evaluation phase and concerns the efforts made by the person to deal with the stress. Lazarus and Folkman (1984) distinguish between two approaches, either by focusing on the emotion or focusing on the problem.

## JOB SATISFACTION AND STRESS

The study of the relationship between work stress and satisfaction has attracted the attention of researchers in recent years, as there seems to be a significant correlation between these two concepts (Ismail et al., 2015). A study by Rahman and Sen (1987) shows that less satisfied employees experience more stress and describe their work worse than more satisfied employees. It is also observed that delighted employees are more efficient and have better health than dissatisfied employees (Adamopoulos et al., 2022).

In its research, the International Labor Organization showed that the relationship between job satisfaction and stress is curvilinear. Job satisfaction is more significant when stress levels are ideal than when they motivate the person. At both ends of the curve, there is a difference between work on the one hand and dissatisfaction on the other (Fraser, 1983).

In terms of the relationship between job satisfaction and stress, we can say that high levels of stress are typically associated with low satisfaction levels. Everyday stressors that negatively affect job satisfaction are low wages, high retirement rates, inadequate training, and lack of equipment (Byrd et al., 2000; Simmons et al., 1997).

## BURN OUT AND JOB SATISFACTION

Shanafelt et al. (2015) studied the changes that occur in satisfaction and burn out levels as a result of the balance between the professional and personal life of health professionals. In this context, satisfaction and exhaustion results are compared to identify discrepancies that were created in the specific results from 2011 to 2014. The research sample consists of general practitioners employed in the USA, and its size is 6,880 people. The analysis showed that in 2014 there was a higher incidence of at least one symptom of burn out compared to 2011. Physicians' satisfaction with the balance between personal and professional life decreased statistically significantly from 2011 to 2014. After examining the effect of gender, age, and working hours, they concluded that despite the effects of demographic characteristics, physicians firstly remain at high risk of burn out and secondly are less satisfied with the balance between personal and professional life (Shanafelt et al., 2015).

Ntantana et al. (2017), in their study to evaluate the relationship between burn out and satisfaction in people working in intensive care units, taking into account for this

analysis the personal and religious characteristics of employees. The research was carried out in 18 ICU departments in Greece, while the sample consists of 149 ICU doctors and 320 ICU nurses who work full time. The results showed that 32.8% of employees suffered from burn out syndrome, while burn out levels were higher in nurses than physicians, and this result was statistically significant at a 99% confidence level. In addition, multiple regression results showed that job satisfaction has a statistically significant effect on employee burn out levels (Ntantana et al., 2017).

In their research, Jiang et al. (2017) evaluated the relationship between job satisfaction, burn out, and intention to stay in the workplace for nurses working in emergency departments in Shanghai. The research sample consists of 976 nurses working in 30 Shanghai hospitals. The research results show that 75% of the nurses in the sample are very satisfied or satisfied with their work, while at the same time, high levels of burn out are recorded. 22.5% of nurses express an intention to leave the profession. Nurses' intention to leave is statistically significantly related to satisfaction and burn out (Jiang et al., 2017).

Adarkwah and Hirsch (2020) evaluated the interaction of burn out and satisfaction in nursing staff working in endoscopy departments in Germany. The survey sample consists of 674 employees, of which 85.9% were women. The research results showed that professional development, remuneration, supervision, and general job satisfaction are factors that statistically significantly affect burn out. In particular, the specific factors lower the levels of emotional exhaustion, depersonalization, and empathy.

At the same time, the improvement of the specific factors leads to higher levels of personal integration. Therefore, enhancing the job satisfaction of health professionals helps to reduce their burn out. Clark and Lake (2020) studied the relationship between burn out and job dissatisfaction in nurses working in obstetric clinics. It became apparent that 25% of nurses show symptoms of burn out while 20% of nurses' report burn out. In addition, job dissatisfaction and burn out are positively related and can be reduced through improved work environments.

In their research, Sarabi et al. (2020) evaluated the link between burn out syndrome, job satisfaction, and other related factors in health professionals working in rural areas in Southeastern Iran. The research sample consists of 225 health professionals who have at least five years of work experience. The data show that both burn out and job satisfaction levels are moderate in these rural areas of Iran. In addition, at a 99% confidence level, the results showed that emotional exhaustion has a statistically significant effect on overall job satisfaction levels, and therefore, the higher the levels of emotional exhaustion, the lower the job satisfaction of health professionals.

## CONCLUSION

The purpose of this study was to investigate the extent and severity of job risks experienced by public health workforce sector and their relationship to emotional exhaustion, burn out, job stress, and job satisfaction. A literature review

research study was designed, and was distributed to public health sector, including demographics and instruments to measure job risks, burn out, job satisfaction and job stress. This study has identified the frequency, severity, and average impact of several burn out, job satisfaction and job stress risks for public health workforce. According to previous literature review, especially for psychosocial and organizational risk categories was found to be associated with burn out and job satisfaction. Moreover, perceived job risks stress, burn out and job satisfaction levels were affected by demographics and more specifically the workplace environment (urban vs rural).

**Author contributions:** All co-authors have involved in all stages of this study while preparing the final version. They all agree with the results and conclusions.

**Funding:** No external funding is received for this article.

**Acknowledgements:** The authors would like to thank to European University of Cyprus and especially School of Science, Department of Health Science, School of Medicine, and the CERIDES Research Center.

**Declaration of interest:** The authors declare that they have no competing interests.

**Ethics approval and consent to participate:** Not applicable.

**Availability of data and materials:** All data generated or analyzed during this study are available for sharing when appropriate request is directed to corresponding author.

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