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Occupational Stress and Job Burnout of Female Medical Staff: The Moderating Role of Psychological Capital and Social Support

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Abstract

The field of medicine is quite challenging as employees have to long and irregular working hours under extreme pressue. This work pressure and exhaustion lead to occupational stress. Occupational stress, when unaddressed, leads to burnout which adversely affects the physical and mental health of female staff working in thisfield. This study investigates the relationship between occupational stress and job burnout on a sample of female medical staff working in the public health sector, with the moderating role played by psychological capital and social support in the relationship betweenoccupational stress and job burnout. The sample consists of 250 female employees working in the public hospitals of the twin cities (Rawalpindi and Islamabad) of Pakistan. The result showed that occupational stress causes job burnout and psychological capital moderates the relationship between them. The three dimensions of psychological capital namely self-efficacy, resilience, and hope, moderate the above relationship while optimism has no effect on it. The results also showed that family support acts as a moderator between stress and burnout, however, supervisory support supportive supervision does not have the same effect. This study highlights that coping strategies help medical/health workers in dealing with stress and burnout. Furthermore, family support plays an essential role in minimizing the stress of female health workers. Therefore, the administration of hospitals should arrange training to enhance the psychological capital of their health workers to keep them stress-free and efficient in their tasks.

Keywords: burnout, family support, hope, occupational stress, optimism, self-efficacy, supervisory support

Introduction

Females are playing a significant role in the economy and growth of Pakistan (Khaliq et al., 2017). They not only taking care of their professional responsibilities but also manage their family life successfully. However, this multitasking and the dual role played by the females is often undermined (Ali & Ul Haq, 2006). Mainly the services of married women often go unnoticed. In Pakistani culture, managing

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family and all house-related chores are considered the sole responsibility of women, which becomes a daunting task for working women (Tahir et al., 2014). In Pakistan, females choose professions for example, become doctors and teachers which is considered more respectable due to gender segregation (Riaz, 2020). From polio workers to paramedics, many female healthcare workers, dentists to psychiatrists, nurses to doctors, are playing their due role. Levinson and Lurie (2004) mentioned that medicine is becoming feminized as the number of females in medicine-related programs has increased tremendously in the past few decades.

Female medical staff, similar to their male counterparts, are untiringly working 24 hours a day under pressure because the number of medical staff is much lower than the requirement; this situation creates stress and anxiety (Husseni & Ullah, 2019). Doctors and nurses' job is full of stress as it comprises physical labor, sufferings of patients, long working hours, night shifts, and personal relationships (Kim, 2020). Today we have an overburdened, stressed out, and time-challenged health care workforce. Stress has become a significant concern in the workplace today (Wang et al., 2017).

WHO has considered stress to be the health epidemic of the 21st century as it is prevalent and increasing over time. According to WHO (2020), 5.9 million nurses are working worldwide, and COVID-19 has triggered more nurses and paramedic staff. As a result, instances of burnout have risen significantly; 68% of nurses suffered from burnout in China (Yao et al., 2018). In a survey conducted in the US in 2014, 66% of physicians reported that they were more stressed out than in 2011. The significant determinants of their high stress were paperwork and administrative demands, and long working hours (Life & Search, 2015). Occupational stress includes harmful physical and emotional reactions when there is a mismatch between job demands and the level of control a person exhibits while coping with it (Aranđelović & Ilić, 2006). This leads to burnout (Chen et al., 2020). Burnout of female doctors and nurses threatens their physical health, causes severe mental exhaustion, and is also detrimental to the quality of patient care. Nurses who went through high levels of stress and burnout had poor psychological well-being, poor work outcomes, provided low patient care, and viewed their managers and hospital functioning as less supportive and less safe (Burke et al., 2010).

The effects of job burnout and occupational stress spillover, and patients are directly affected by this. The research shows that Psychological Capital is beneficial for individuals in coping with stressful situations by reducing burnout (Zhou et al., 2018). Psychological capital deals with self-efficiency, hope, resilience, and optimism (Luthans et al., 2007). These characteristics individually

or combined reduce levels of stress and burnout. Research shows that psychological capital can be developed by training. It has been linked to positive outcomes at the workplace, including increased performance, improved employee attitudes and behaviors, and a decrease in stress. On the other hand, social support also plays a vital role in their career-related decisions and help them cope (Anjum et al., 2019).

Stress and burnout among healthcare workers are not recent phenomena and have been widely researched internationally and in Pakistan. Most studies have taken both male and female doctors or health workers into account, while studying stress and burnout (Zaman et al., 2020; Saman & Malik, 2021).

However, as mentioned in the literature above, there is a huge difference in gender roles, especially in an orthodox country like Pakistan, where 50% of the female doctors are forced to withdraw practice after marriage (Moazam & Shekhani, 2018). Due to this, there is a need to study the factors affecting female doctors or health workers separately. For example, Qureshi et al. (2021) found a higher level of psychological distress in female doctors than their male counterparts. Therefore males and females cannot be analyzed on the exact dimensions, especially in developing countries where females have different social support needs than males to pursue their career especially when it comes to the medical field where they have to work for long hours.

Moreover, Akhtar and Qureshi (2019) emphasized a need for studies in public sector hospitals to identify workplace issues to help decision-makers make strategies to increase healthcare workers' performance. This study has identified the gender-specific workplace issues and remedies for them that will help decision-makers make their workplace more conducive for females. So the objectives of this study are to find the relationship between stress and burnout and the role of psychological capital and social support in weakening this relationship in female healthcare workers.

Literature Review

Impact of Occupational Stress on Job Burnout

The term burnout was first introduced by Freudenberger (1974), who described burnout as reactions in response to the chronic occupational stress involving occupations having high interaction with people.

Burnout occurs when employees can no longer bear any further pressure from work and are stressed out (Pines & Kafry, 1978). According to Altun (2002) burnout is not a symptom of occupational stress but an outcome of unmanaged occupational stress. Burnout is more severe in people-oriented professions; it is

more common among medical staff than other workers because they are constantly faced with stressful situations, a breeding ground for Burnout (Rijk et al., 1998).

Although medicine is personally fulfilling and entirely meaningful, it is pretty demanding and stressful (Shanafelt et al., 2012). As a result, many doctors and nurses experience professional burnout, which is a lack of enthusiasm and interest in work (emotional exhaustion), a decline in the drive for personal accomplishment (decreased professional efficacy), and detachment from the job and feeling of cynicism (depersonalization) (Maslach at al., 2001).

There are three components of burnout, i.e., emotional exhaustion, depersonalization, and diminished personal accomplishment. The exhaustion component of burnout is associated with the stress part of burnout. It is a feeling of overexertion and depletion of an individual's physical and emotional resources. Exhaustion occurs when a person is tensed, frustrated, and cannot continue performing and being responsible for the clients in the same manner as he was in the past (Cordes & Dougherty, 1993). The interpersonal context of burnout is represented by cynicism which refers to detachment from different aspects of the job, making the employee hostile and callous. Finally, the reduced self-efficacy represents the self-evaluation part of burnout. Reduced self-efficacy is a feeling of low productivity, lack of achievement, and incompleteness at work.

The three main determinants of emotional exhaustion explained by Cordes and Dougherty (1993) are role conflict, workload, and interpersonal relationships. Depersonalization, the second dimension of burnout, develops cynical attitudes and negative feelings and is characterized by detachment from work and people. Cynicism indicates that a person is unwilling to perform his responsibilities because he cannot prioritize all the tasks due to decreased tolerance levels (Mostert & Joubert, 2005). People suffering from this treat others as impersonal objects, which is common among professions that interact daily, like sales personnel or health care workers (Philip, 2004).

The third dimension of burnout is a diminished personal accomplishment, which tends to evaluate himself negatively, resulting in less efficiency at work (Brotheridge & Grandy, 2002). As a result, the employee feels unproductive and cannot produce quality work (Philip, 2004).

Burnout occurs mainly in people who have extensive workloads and think they are unappreciated (Altun, 2002). A study on the burnout of US physicians demonstrates that approximately 45.8% of the sample under study conducted had at least one symptom of burnout (Shanafelt et al., 2012).

According to the available literature, the factors associated with job burnout are somehow related to occupational stress. Stress occurs when a person perceives that the needs of a situation are beyond his perceived ability to handle these (Avey et al., 2009). Thus, stress is an imbalance between what is perceived and the perceived ability to fulfill the demands. According to Schabracq (2003), occupational stress occurs as a response to a lack of control over one's job performance, and stress develops when the person has to perform in a way he is not able or willing to (Singh et al., 2020).

Organizations also suffer when employees experience high degrees of stress. It leads to an additional cost to the companies in terms of absenteeism, turnover, and poor performance (Faragher et al., 2004).

Occupational stress is usually considered the antecedent of job burnout, as long-term stress leads to severe burnout conditions (Galanakis et al., 2020). Burnout develops gradually over time, and a person developing it is usually unaware of the symptoms. With time the person finds a change in his attitude towards his work or towards people at the workplace and ultimately becomes a victim of burnout (Schaufeli & Buunk, 2004). Khalid et al., (2020) found stress a vital factor causing job burnout.

Various factors are associated with work stress, e.g., heavy workload, job insecurity, managerial bullying, competition, and technological change. However, workload and extended work hours are the major causes of work stress in the medical profession that decrease job satisfaction (Singh et al., 2020).

Medical professionals are considered high in stress levels because they have more impact on human life (Antoniou, 2001). The pressure at work and over-commitment increase emotional exhaustion and depersonalization whereas decreasing personal accomplishment (Wu et al., 2014). Employees of the health sector are more prone to stress because of their job demands and long working hours. Nurses have multiple roles, e.g., taking care of patients, administration, safety, and supervising patients.

Brand (2007), in his study on 122 nurses in South Africa, confirmed that occupational stress causes burnout. In addition, research was conducted in Australia by Bryant et al. (2000) on 170 urological nurses to investigate occupational stress. Results showed the excessive workload to be the most prominent cause of work stress among urological nurses. Studies also show that doctors and nurses working in public hospitals undergo more occupational stress than private hospitals.

The reasons could be the more patients per doctor, more workload, and prolonged working hours. In addition, even a pandemic or sudden health emergency can cause stress that might lead to burnout in female health workers (Sriharan et al., 2021).

Doctors have higher responsibilities that include using their skills to treat patients and decision-making, which, when gone wrong, can risk a patient's life. According to Zaghini and colleagues (2020) long-term occupational stress causes burnout in doctors. The prevalence of burnout based on the gender difference in the health sector was studied, and results show burnout to be more among female physicians than male physicians (Carr et al., 2003).

Survey results demonstrate that nurses who have a duty in emergency rooms suffer from more burnout than nurses in other departments such as pediatrics (Women's Occupational Health Resource Center, 1982). In addition, occupational stress has a significant relationship with job burnout (Matyushkina et al., 2020; Singh et al., 2020).

So it is concluded that the relationship between doctors and patients involves high interpersonal interaction and results in emotional exhaustion, which is the cause of burnout for doctors in the first place. Furthermore, the responsibility of women does not end at the workplace as they have familial tasks too, which cause emotional overload and lead to burnout. So after studying the existing literature following hypothesis is developed:

H_1: Occupational stress increases job burnout in Female Medical Staff.

Impact of Psychological Capital on Occupational Stress and Job Burnout

According to Luthans et al. (2006), psychological capital is about developing and modifying oneself to become the best person. Psychological Capital is defined as: "an individual's positive psychological state of development." Psychological capital is considered a state that can be developed and changed (Lewis, 2011). Various studies on positive psychology show that the four dimensions of psychological capital, i.e., Hope, resilience, optimism, and self-efficacy, decrease stress (Avey et al., 2009). For example, research on burnout shows that some employees, despite high pressure at work, long working hours, and job demands, did not develop burnout. The reason is the positive psychological strengths that prevent burnout (Schaufeli & Bakker, 2001). Lazarus (2003) identified that the four dimensions of psychological capital help understand how individuals cope with stress. People with positive coping strategies tend to take constructive actions when faced with challenging situations.

In contrast, a positive relationship is found between the capacity to cope with stress and psychological capital's four dimensions (Garrosa & Moreno- Jiménez, 2013). According to the research, there is a negative relationship between psychological capital and work stress (Jacobs, 2016). Heng et al. (2020) found the moderating effect of psychological capital in weakening the relationship between work conflict and job burnout. Thus, psychological capital plays a vital role in coping with burnout (Yıldırım et al., 2021). In a study on nurses, significant moderation of psychological capital has been found in the relationship between workplace incivility and compassion (Woo & Kim, 2020). Fernando et al. (2020) also found a moderating role of psychological capital in weakening the relationship between job demands and burnout. In one study on Chinese school teachers, psychological capital moderated the relationship between job burnout, emotional labor, and job satisfaction (Cheung et al., 2011). Based on the literature, it has been hypothesized that an employee can restrain himself from getting burnout in the presence of positive psychological capital.

H₂: Psychological Capital moderates the relationship between Occupational Stress and Job Burnout.

The literature has established that psychological capital as a composite variable reduces stress, but for this study, the impact of individual dimensions of psychological capital on the relationship of stress and burnout has also been studied.

Self-efficacy is the dimension of Psychological capital that meets the inclusion criteria (Luthans et al., 2007). It is defined as having enough confidence to complete a difficult task despite so many hurdles in the way. (Lewis, 2011). Research shows that occupational stress is less likely to be developed in those with high self-efficacy because such people believe that they have the ability and resources to deal with the stressors. On the other hand, according to Bandura (2008) people with low self-efficacy think that their efforts to deal with difficult situations are futile, so they experience negative symptoms of stress.

On the other hand, people with high levels of self-efficacy perceive challenges as positive and feel they have sufficient competency to deal with them. In a study on pre-service teachers, the researchers found that people with high self-efficacy can better cope with stressful situations than those with less self-efficacy (Klassen & Durksen, 2014). Negative feedback, setbacks, criticism, and repeated failures do not affect efficacious individuals (Bandura & Locke, 2003). According to Brien and Page (1994) nurses with high self-efficacy behave positively even under higher stress levels and are more satisfied.

Another study on healthcare staff reported a negative correlation between job stress and self-efficacy (Kim & Park, 2012). In their study on nurses, Chen et al. (2020) also found the mediating role of self-efficacy in lowering the development process from job stress to depression and anxiety. Goussinsky (2020) found the moderating role of self-efficacy and coworker support in healthcare workers, while studying the relationship of employee mistreatment and job burnout. Self-efficacy as a moderator changes the strength and direction between stress and different dimensions of burnout (Makara-Studzińska, et al., 2019). A study found moderated self-efficacy between stress and work exhaustion in IT professionals (Anantharaman et al., 2017). Based on the studies mentioned above, the following hypothesis has been developed:

H₃: Self Efficacy moderates the relationship between Occupational Stress and Job Burnout.

According to Luthans (2002), resilience is a positive capability to bounce back from uncertainty, adversity, failure, conflict, or even increased responsibility, positive change, or progress. Resilient employees can better deal with stressors, are flexible to rapidly changing workplace demands, and are open to new experiences (Tugade & Fredrickson, 2004). Thus resilient employees are less likely to face occupational stress. When they are faced with it, they can better cope with the demands, thereby reducing the chances of burnout.

Federickson et al. (2003) found that resilient individuals showed faster emotional and psychological recovery from the effects of stress. Like other Psychological capital dimensions, resilience is a state-like characteristic, i.e., it can be developed (Bonanno, 2004). Using positive emotions at the time of adverse events is one of the most successful methods in building resilience (Tugade & Fredrickson, 2004). Vetter et al. (2018) found less impact of burnout on doctors with a high level of resilience in their study on gynecologic oncology. A study on nurses in China found that resilience correlates negatively with burnout and stress (Zou et al., 2016).

In their study, Robertson et al. (2016) recognized that resilience helps health professionals reduce stress and remain healthy. Likewise, Gorver and Furnham (2021) found a significant impact of resilience between the dark triad and burnout. Based on the studies mentioned above following hypothesis has been derived.

H₄: Resilience moderates the relationship between Occupational Stress and Job Burnout

Synder ([1989](#)) was among the pioneers in the positive psychology movement to introduce the cognitive theory of hope. Hope is a positive state which comprises three concepts, i.e., agency, pathways, and goals, where the agency is goal-directed energy, and the pathway is the planning to meet the goals (Snyder et al., [1991](#)). In addition, hope has the will to succeed and has complete knowledge of achieving the goals (Snyder, [2000](#)).

In POB, hope is conceptualized as state-like, and several trainings have successfully built up an individual's Hope (Snyder, [2000](#)). Research shows that managers who have high levels of hope have high employee retention rates, high performance of work units, and a satisfied workforce (Peterson & Luthans, [2003](#)). Simmons and Nelson ([2001](#)) found a positive relationship between hope and eustress among nurses. Passmore et al. ([2020](#)) found that hope as a moderator mitigates the effect of traumatic stress on burnout. A study found the mitigating role of Hope as a moderator between hindrance stressors and work engagement (Kang & Jang, [2019](#)). Based on the studies, the following hypothesis has been derived:

H₅: Hope moderates the relationship between Occupational Stress and Job Burnout

Research on the fourth component of Psychological capital shows that optimistic people are more likely to be successful than pessimists. Optimists expect good things in life, while pessimists expect bad things to occur in their lives (Carver & Scheier, [2014](#)). Peterson and Luthans ([2003](#)) consider realistic optimism as a state-like changeable construct. Optimism enables a person to think in terms of making things better instead of accepting the status quo. Therefore, as a construct of psychological capital, optimism is associated with positive events that include motivation and positive emotions (Luthans, [2002](#)).

A research was conducted by Aspinwall and Taylor ([1992](#)) on college students to measure the stress at the start of the college semester when stress levels are usually high for new students and found that students who were optimistic during the start of the semester showed less stress at the end than pessimist students. According to Jaworski et al. ([2020](#)), optimism in nurses helps them mitigate nursing care rationing. Romswinkel et al. ([2018](#)) in their study, found the significant moderation of optimism between the relation of job stress and depressive symptoms. Another study found that optimism moderates the relationship between empowering leadership and burnout (Chughtai & Rizvi, [2020](#)). After studying the literature on optimism, the following hypothesis is derived:

H₆: Optimism moderates the relationship between Occupational Stress and Job Burnout

Impact of Social Support on Occupational Stress and Job Burnout

Another factor associated with job burnout and occupational stress is social support. The literature on occupational stress shows that social support is very helpful in managing stress at the workplace and helps in overcoming the harmful effects of stress on an individual's well-being (Scheck et al., 1997). Social support is broadly defined as the presence of helping relationships and their quality (Leavy, 1983). The demand for family and supervisory support by females in the health sector to excel in their fields and overcome work stress and burnout has become a norm these days.

According to AbuAlRub (2004), perceived social support enhances the employee's performance while reducing work stress. Social support has decreased stress by reducing depression, better physical and psychological health, and decreased anxiety. Qualitative research on 50 nurses in England was conducted, and the results demonstrated the primary cause of stress to be the absence of manager's support (Taylor et al., 1999). Therefore, organizational support, particularly support from supervisors, is vital in decreasing stress levels among the nursing staff involved in long-term care (Liang et al., 2014).

Anis-ul-Haque and Khan (2001) researched female medical staff (doctors and nurses) working in public hospitals. They found out that the support provided by the organization lowered the effects of stress and burnout. Meral at al., (2018) suggested that the moderating role of supervisory support on burnout with the relevant variables is still unclarified and needs further research. Park at al. (2020) found that supervisory support mitigates the impact of work-related phone usage after work on burnout.

A study checked the moderated role of supervisory support between the relationship of emotional exhaustion (an element of burnout) and intention to leave and found it to be significant (Srivastava & Agarwal, 2020). A study was conducted on the Canadian health care workers regarding the impact of change stressors on burnout. The study's findings suggested that supervisory support buffered the relationship of change stressors with various dimensions of burnout (Day et al., 2017). Physicians and paramedics, who had reduced support from supervisors, faced more emotional exhaustion (Leiter, 2009). In research on junior doctors, social support was found to have counteracted the negative role of stressors, and improper and unsocial work schedules (Brown et al., 2010).

A high degree of burnout was seen among the paramedics who had less support from their families. A study found perceived social support, especially from family, as a significant moderator in reducing the impact of emotional exhaustion on employee well-being (Wang et al., 2020). Rossiter and Sochos (2018) conducted a study on the moderation of social support on workplace bullying and burnout and found family supports a significant moderator in weakening the relationship between bullying and burnout.
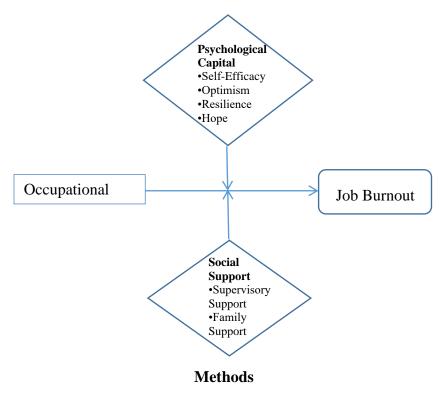
Social support is often considered a vital moderating variable. Supervisory, peer, and organizational support have tremendous moderating effects on job demands and burnout (Kong et al., 1994). In the previous studies, social support acted as a moderating variable as it can significantly reduce the adverse effects of stressful jobs such as the medical field (Jan et al., 2015). Keeping in view the previous literature following hypotheses are developed:

H7: Family Support moderates the relationship between Occupational Stress and Job Burnout.

H8: Supervisory Support moderates the relationship between Occupational Stress and Job Burnout.

Theoretical Framework

The theoretical framework for the research is presented below:

Methods

Research Design

The research is a descriptive study, and a structured questionnaire has been used, while the design was cross-sectional. This study is explanatory because it explains the relationship between independent and dependent variables by studying the variable moderating effect. On the other hand, the design is cross-sectional as data was collected from the respondents, which was sufficient for the survey research.

Population and Sample Frame

The population of the study comprises of female employees of nine public hospitals of Rawalpindi and Islamabad. Due to time and cost constraints, it was not possible to collect data from all over the country. However, the two cities Islamabad and Rawalpindi, provide some administrative diversity. Islamabad is the capital territory, and hospitals working in Islamabad come under the federal government's administrative control. In contrast, hospitals in Rawalpindi are under the administrative control of the government of Punjab . So, this selection of cities and hospitals has added to the diversity of the respondents.

According to Hassan et al., ([2017](#)), 175223 registered doctors and 90276 nurses were registered. Many lady doctors do not continue their profession after marriage, leaving an acute shortage of female doctors. However, exact data regarding the number of doctors and nurses currently working in Rawalpindi and Islamabad was unavailable. Neither the hospitals cooperated in providing a staff list due to confidentiality and security reasons, so the sampling frame was not available for the study.

The hospitals include District Head Quarters Hospital Rawalpindi, Pakistan Atomic Energy Commission Hospital Islamabad, Military Hospital Rawalpindi, Combined Military Hospital Rawalpindi, Pakistan Institute of Medical Sciences Islamabad, Fauji Foundation Teaching Hospital, National Engineering, and Scientific Commission Hospital Islamabad, KRL Hospital Islamabad, and Holy Family Hospital Rawalpindi.

The female medical staff in this study comprised of doctors and nurses. The total number of respondents was 250. The research was conducted on 117 Nurses and 133 Doctors, 46.8% and 53.2%, respectively.

Sample Size and Sampling Technique

The sample size depends upon the available recourses and the study's goals (Kelley et al., [2003](#)). Benchmarking the previous studies conducted on the medical staff (AbuAlRub, [2004](#); Mokhtar et al., [2016](#); Riklikienė at al., [2015](#); Akman et al., [2016](#)), 250 female medical employees have been taken as the sample for this study. The convenience sampling method was used for data collection; convenience sampling is a non-probability sampling technique used when the sampling frame is unavailable (Acharya et al., [2013](#); Sekaran & Bougie, [2019](#)).

Data Collection Procedure

Data was collected from lady doctors and nurses in the selected hospitals of Rawalpindi and Islamabad. As the underlying technique was convenience sampling, all the precautions were taken to ensure data collection accuracy. Doctors working in OPD and wards (morning and evening shifts) were contacted, and after their consent, questionnaires were given. Some doctors filled the questionnaires instantly, while some returned after 1-2 days.

Two hundred fifty questionnaires were distributed in total, 133 were returned. The same procedure was adopted for the female nurses; 200 nurses accepted the questionnaire, and 117 returned it. Initially, data from 10 doctors and ten nurses was collected and analyzed for questionnaire reliability, which was satisfactory.

Data Collection Instrument

For data collection, a questionnaire has been used. The questionnaire comprises four subscales, namely burnout, occupational stress, psychological capital, and social support.

For burnout, the MBI-HSS scale of Maslach and Jacks (1981) has been used. This scale consists of three dimensions of burnout, emotional exhaustion, personal accomplishment, and depersonalization, and 22 items measure burnout. In addition, occupational stress has been measured by the scale of House et al. (1979) with 15 items.

Psychological capital was measured using Luthans et al. (2007), with four dimensions of psychological capital with 24 items measuring hope, optimism, self-efficacy, and resilience. Social support is comprised of supervisory and family support. Supervisory support has been measured by Greehaus et al. (1990) scale using six items.

For measuring Family support, The Multidimensional Scale of Perceived Social Support by Zimet et al. (1988) is used, with four items. The questionnaire used a seven-point Likert scale. To ensure that the participants are well informed, a summary of the questionnaire's purpose and format was clearly stated at the start.

Reliability of the Research:

Table.1 provides the reliability of the scales used in the questionnaire. All the sub-scales have good reliability, around .80; only one scale supervisory support has reliability .684. According to Hair et al., values of .6 to .7 deemed the lower limit of acceptability. In this study, it was .684.

Table 1

Reliability test Values for Independent and dependent Variables

Variables	No of Items	Cronbach's Alpha
Burnout	22	.780
Occupational Stress	15	.838
Psychological Capital	24	.897
Supervisory Support	9	.684
Family Support	4	.857

Research Analysis Techniques

Regression and correlation techniques were used to examine the relationship among variables under investigation. Regression is the most robust statistical technique to determine the influence of one variable on the other variable. Moderation analysis was done by using Andrew F Hayes Process Macros version 3. This moderation analysis is also based on regression. This macro is now a widely used statistical technique.

Data Results & Analysis

Linear Regression

For our research, burnout is regressed with Occupational Stress, as proposed in hypothesis 01.

Burnout Against Occupational Stress

R Square of the regression is .467, which means Occupational Stress explains 46.7% of the variation in burnout. The beta value explains that a 1 unit change in occupational stress will bring .502 units to change in burnout. The P-value of the beta coefficient of Occupational Stress is less than 0.05, which means it is statistically significant.

Table 2

Result of Regression Analysis of Burnout and Occupational Stress

Model	Unstandardized Beta	SE	t value	Sig
Constant	1.723	0.128	13.410	.000
Occupational Stress	0 .502	0.034	14.749	.000
	R^2 : 0.467	R:0.684**	*Sig* .000[b]	

Dependent variable: Burnout

Therefore, the predicting equation will be: Burnout = 1.723 + 0.502 (Occupational Stress) + Error

Hence *hypothesis 01*, Occupational stress causes job burnout in Female Medical Staff, has been validated.

Moderation Analysis

Moderation occurs when a third variable strengthens or weakens the relationship between the dependent and the independent variable. In our research,

PROCESS macro, developed by Andrew F. Hayes, has been used to determine moderation effects.

In the hypothesis, burnout is the dependent variable, and Occupational Stress is the independent variable, whereas Psychological capital, Family Support, and Supervisory Support are investigated for moderation. Each moderator is tested separately to see an impact on the relationship between the dependent and independent variables.

Psychological Capital

After adding Psychological capital and the Interaction term (Occupational stress * Psychological capital), we get the following result as given below:

Table 3

Burnout and Occupational Stress with Psychological Capital

	Co-efficient	Se	P	LLCI	ULCI
Constant	2.5190	.6040	.0000	1.3293	3.7086
Stress	.7168	.1414	.0000	.4384	.9952
Psychological capital	-.0866	.1274	.4972	-.3376	.1644
Int_1	-.0738	.0310	.0181	-.1349	-.0127

Table 4

Conditional effect of Burnout and Occupational Stress with Psychological Capital

Psychological Capital	Effect	P	LLCI	ULCI
3.7917	.4371	0000	.3627	.5115
4.5833	.3787	0000	.3151	.4422
5.2917	.3264	0000	.2448	.4080
R^2	R^2-Change			
0.6056	0.0091			

Tables 3 and 4 explain that R^2 has changed considerably by incorporating psychological capital as moderator and interaction term compared to linear regression between burnout and occupational stress (R^2 from 0.467 to 0.605), which means this model explains 60.5 % of the variation the dependent variable, i.e., burnout. Also, the interaction term is statistically significant ($p < 0.05$), indicating that psychological capital moderates the relationship between burnout and occupational stress.

The conditional effect values show that the relationship between the independent and dependent variables weakens. In other words, by introducing psychological capital, there are fewer chances that occupational stress will cause burnout. R^2- change indicates the change in R^2 because of incorporating the interaction term in the model (R^2-change 0.0091). From the above data, we conclude that moderation exists between the two variables.

Hence *hypothesis 2*, Psychological Capital, moderates the relationship between Occupational Stress and Job Burnout of Female Medical Staff has been proved.

Furthermore, Psychological Capital's dimensions were analyzed to see which factors moderate in the study's context.

Self-Efficacy

Table 5

Burnout and Occupational Stress with Self-Efficacy

	Co-efficient	Se	P	LLCI	ULCI
constant	1.7509	.4650	.0000	.8349	2.6669
Stress	.7445	.1151	.0000	.5178	.9711
Self-Efficacy	.0432	.0971	.6569	-.1481	.2345
Int_1	-.0680	.0249	.0067	-.1171	-.0190

Table 6

Burnout and Occupational Stress with Self Efficacy

Self-Efficacy	Effect	P	LLCI	ULCI
3.3333	.5117	0000	.4347	.6006
4.6667	.4269	0000	.3632	.4906
5.6667	.3589	0000	.2719	.4458
R^2	R^2-Change			
0.5688	0.0131			

Tables 5 and 6 explain that Self-Efficacy moderates burnout and occupational stress. The value of R^2 has changed by including the Self-Efficacy component of psychological capital and interaction term compared to linear regression between burnout and occupational stress (0.467-0.5688). Also, the p-value is less than 0.05, which means the interaction term is statistically significant. Conditional effect values show that self-efficacy weakens the relationship between burnout and occupational stress. In other words, there are fewer chances of occupational stress-causing burnout in the presence of an interaction term.

Hence *hypothesis 3,* Self Efficacy moderates the relationship between Occupational Stress and Job Burnout of Female Medical Staff, has been validated.

Resilience

Table 7

Burnout and Occupational Stress with Resilience

	Co-efficient	Se	P	LLCI	ULCI
constant	1.9116	.5755	.0010	.7781	3.0452
Stress	.8214	.1369	.0000	.5517	1.0912
Resilience	.0382	.1209	.7525	-.2000	.2764
Int_1	-.0950	.0300	.0017	-.1540	-.0360

Table 8

Burnout and Occupational Stress with Resilience

Resilience	Effect	P	LLCI	ULCI
3.6667	.4731	0000	.3948	.5515
4.6667	.3781	0000	.3131	.4432
5.3333	.3148	0000	.2321	.3975
R^2	R^2-Change			
0.5943	0.0166			

Tables 7 and 8 explain that Resilience Moderates Burnout and Occupational Stress. Again, the value of R^2 has changed by including the Resilience component of Psychological Capital and interaction term compared to linear regression between burnout and occupational stress (0.467-0.5943).

Also, the p-value is less than 0.05, which means the interaction term is statistically significant. The value of the conditional effect shows that self-efficacy weakens the relationship between burnout and occupational stress.

In other words, there are fewer chances of occupational stress in the presence of interaction term to cause burnout. R^2- change indicates the change in R^2 because of incorporating the interaction term in the model (R^2-change 0.0166).

Hence *hypothesis 4,* Resilience moderates the relationship between Occupational Stress and Job Burnout of Female Medical Staff, has been accepted.

Hope

Table 9

Burnout and Occupational Stress with Hope

	Co-efficient	Se	P	LLCI	ULCI
Constant	1.5371	.4843	.0017	.5831	2.4910
Stress	.7996	.1188	.0000	.5656	1.0335
Hope	.0996	.0971	.3064	-.0917	.2909
Int_1	-.0827	.0251	.0011	-.1320	-.0333

Table 10

Burnout and Occupational Stress with Hope

Hope	Effect	P	LLCI	ULCI
3.6667	.4964	0000	.4173	.5755
4.6667	.4138	0000	.3474	.4802
5.6667	.3311	0000	.2449	.4173
R^2	R^2-Change			
0.5571	0.0196			

Tables 9 and 10 show that Hope Moderates Burnout and Occupational Stress. R^2 has changed by incorporating the hope component of psychological capital and interaction term compared to linear regression between burnout and occupational stress (R^2 from 0.467 to 0.5571), which means this model explains 55.7 % of the dependent variable, i.e., burnout. Also, the interaction term is statistically significant ($p < 0.05$), indicating hope moderates burnout and occupational stress.

The conditional effect value shows that it weakens the relationship between the independent and dependent variables. R^2- change indicates the change in R^2 because of incorporating the interaction term in the model (R^2-change 0.0196).

Hence *hypothesis 5,* Hope, moderates the relationship between Occupational Stress and Job Burnout of Female Medical Staff has been accepted.

Optimism

Optimism does not moderate burnout and occupational stress because the p-value is more significant than 0.05.

Hence *hypothesis 6,* Optimism moderates the relationship between Occupational Stress and Job Burnout of Female Medical Staff has been rejected.

Family Support

After adding the Family Support and the Interaction term (Occupational Stress *Family Support), we get the following result as given below:

Table 11

Burnout and Occupational Stress with Hope

	Co-efficient	Se	P	LLCI	ULCI
constant	3.8374	.4752	.0000	2.9013	4.7734
Stress	.5342	.1145	.0000	.3087	.7597
Family Support	-.2735	.0987	.0060	-.4678	-.0791
Int_1	-.0648	.0255	.0118	-.1151	-.0145

Table 12

Burnout and Occupational Stress with Family Support

Family Support	Effect	P	LLCI	ULCI
3.5000	.3073	0000	.2353	.3793
4.5000	.2425	0000	.1831	.3020
5.4600	.1803	0000	.0984	.2622
R^2	R^2-Change			
0.7217	0.0073			

As explained in Tables 11 and 12, R^2 has changed considerably by incorporating family support and interaction term compared to linear regression between burnout and occupational stress (R^2 from 0.467 to 0.722), which means this model explains 72.2 % of the variation the dependent variable, i.e., burnout. Also, the interaction term is statistically significant ($p < 0.05$), indicating family support moderates the relation between burnout and ccupational stress.

Conditional effect values show the weakening of the relationship between stress and burnout in the presence of interaction terms. R^2- change indicates the change in R^2 because of incorporating the interaction term in the model (R^2-change 0.0073). From the above data, we conclude that moderation exists between the two variables.

Hence *hypothesis 7,* Family Support, moderates the relationship between Occupational Stress and Job Burnout of Female Medical Staff has been validated.

Supervisory Support

After adding Supervisory Support and the Interaction term (Occupational Stress *Supervisor Support), results show the interaction term is not statistically significant ($p > 0.05$), indicating no moderation exists.

Hence *hypothesis 8,* Supervisory Support, moderates the relationship between Occupational Stress and Job Burnout of Female Medical Staff has been rejected.

Discussion and Findings

The study's main objective is to examine the impact of occupational stress on job burnout with the moderating role of psychological capital and social support. The linear regression results show a strong relationship between occupational stress and job burnout of female medical employees. Thus the hypothesis H_1 is accepted. In the current research on public hospitals of Pakistan, results show that stress is mainly because of the low ratio of nurses/doctors to patients. Nurses' multiple work roles such as treatment, recovery, safety, maintenance, and paperwork lead to stress, which gradually turns into burnout (Liu et al., 2021).

Moreover, female medical employees have more tendencies towards burnout because they are caretakers of the family and have home responsibilities apart from their official work. This study corresponds with the previous studies, and results show a significant positive relationship between stress and burnout in doctors and nurses (Antoniou, 2001; Brand, 2007; Wu et al., 2008; Chen et al., 2020).

The study results have also validated the second hypothesis that psychological capital moderates the relation between occupational stress and burnout. Psychological capital weakens the relationship, which means psychological capital can weaken the relationship between stress and burnout. This result implies that an employee high with psychological capital is more likely to cope with stressful situations and avoid burnout (Zhou et al., 2018). Thus, psychological capital is a trait that enables people to be more effective in unfavorable circumstances. Firstly, the moderating effects of psychological capital were studied by taking psychological capital as a composite variable. Secondly, the individual dimensions of psychological capital were also analyzed one by one. Therefore, hypothesis 3 is accepted, i.e., self-efficacy moderates the relationship between occupational stress and job burnout. Results show that it weakens the relationship, which means that occupational stress is less likely to cause burnout when self-efficacy is present (Goussinsky, 2020).

On the other hand, high self-efficacy negatively relates to burnout (Smeds et al., 2020). According to Bandura (2008) people with low self-efficacy experience

negative stress symptoms than people with high self-efficacy. This positive ability is crucial for female doctors and nurses as they face challenging situations daily. Having the confidence and skills to perform the job is very important for them. They must believe in themselves to combat the stress and accomplish their task with complete confidence.

Resilience moderates the relationship between stress and burnout, so H4 is accepted. Resilience weakens the relationship between stress and burnout (Robertson et al., 2016). According to Tugade and Fredrickson (2004), resilient employees tend to better deal with stressors and are open to new experiences. So our study is consistent with the previous research. Resilience is essential for medical staff as doctors and nurses go through challenging situations to see the sufferings or even loss of human life. If they are not resilient, it becomes difficult to get back to their usual self, which causes extreme stress and burnout. Resilience helps them bounce back with greater strength, and they are better able to manage the risks and stress of daily life (Gorver & Furnham, 2021).

Hypothesis 5 is accepted, which states that hope moderates the relationship between stress and burnout. Hope weakens the relationship between stress and burnout, which means that when a female medical staff has this trait, the chances of stress turning into burnout will be reduced (Passmore et al., 2020). Hope is a positive trait that is important for medical employees as Hope helps them plan for the future in terms of skills they want to acquire, the training they want to undergo, or further studies they want to pursue. Hope helps them to set goals and inculcates in them the will to achieve those goals by reducing the stress associated with the negativity of failure (Duncan & Hellman, 2020).

The fourth dimension, optimism, is not significant, which means it does not moderate the relationship between stress and burnout. So Hypothesis H6 is rejected. Our study is conducted on female medical employees whose job is that positive expectations about the future do not decrease the work stress they face daily. So, optimism is not a very important factor for them in reducing stress.

In this research, two types of social support, i.e., family support and supervisory support, were studied. Females in the health sector specifically require support from family and supervisors to excel in their careers and overcome the effects of stress. The hypothesis developed were:

H7: Family Support moderates the relationship between Occupational Stress and Job Burnout of Female Medical Staff.

H₈: Supervisory Support moderates the relationship between Occupational Stress and Job Burnout of Female Medical Staff.

Results show that family support moderates the relation between occupational stress and job burnout. So Hypothesis H₇ is accepted. Previous research also consolidates the results of this finding. Support from family and friends among long-term care nurses helped lower the emotional exhaustion component of burnout (Woodhead at al., 2016).

Unsupportive family and problems within families make it difficult for health employees to focus on their patients leading to more risk of job burnout (Cohen-Mansfield, 1995). Female medical employees can only lower their stress if they have a supportive family at the back (Rossiter & Sochos, 2018). In Pakistan, females have complete responsibility for home even if they are working. So it is imperative to have a supportive family who can share their burden at home and support them when things are not right at work.

Moderation of supervisory support was not significant, which means it does not moderate the relationship between stress and burnout. This study is conducted on the female medical staff of public hospitals in Pakistan. In public hospitals, nurses do not have a specific supervisor. They are constantly on rotations in different wards. They have different shifts in timing, due to which they have to work under different supervisors. They have to perform their duties under various supervisors, not one who can influence and support them, so their stress levels are not dependent upon the supervisor's support. So, supervisory support does not play much of a role in lowering their stress and burnout levels.

Conclusion

This study's primary objective is to add to the body of knowledge regarding the impact of occupational stress on job burnout in moderating variables of psychological capital and social support in the context of public hospitals of Pakistan. In addition, it highlights the role of positive psychological abilities and support from family and supervisors in mitigating stress and burnout.

The results of this research provide evidence that occupational stress causes burnout as they have a strong relationship. Female medical staff, experiencing continuous stress, tends to develop burnout in the long run, which causes adverse physical and mental deterioration and is also detrimental to the organization.

The results indicate that burnout is negatively correlated to psychological capital, supervisory support, and family support. Furthermore, Psychological capital moderates the relation between stress and burnout. Individual dimensions

of psychological capital were also studied. Self-efficacy, resilience, and hope act as moderators, while optimism does not moderate the relationship. Family support also acts as a moderator, while supervisory support does not moderate stress and burnout.

Thus, this study suggests that positive abilities such as self-efficacy, resilience, and Hope help female employees decrease the negative consequences of stress and burnout. In addition, support from family is another essential factor that effectively helps women in the medical field in the challenging and stressful environment of public hospitals.

The present study has many implications to offer for management theory and practice. Firstly, this study has extended the literature by identifying the coping mechanisms for stress and burnout. Many studies have focused on the antecedents and consequences of stress and burnout, but this study specifically identified the factors that can help eradicate stress and burnout in female health workers. Secondly, this study has presented the moderating effect of the individual dimension of psychological capital. Various studies have focused on the combined effect of PsyCap, but studies on its dimensions are scarce.

King at al. (2016) premised that there is very little research available on the factors that might foster resilience and its influence on work outcomes. As a response to this call, this study has focused on the specific psychological behavior of individuals that might affect efficiencies, like burnout or stress. Lastly, a strength of this paper is the integration of various concepts (stress, burnout, Hope, resilience, optimism, family support) to present a framework for managing stress and burnout at the workplace.

In addition to the theoretical contribution, this study has presented few practical implications to improve management practices. Previous studies have identified that stress and burnout is a severe issue of healthcare workers of Pakistan. Therefore, studies emphasized that the management of hospitals should take steps to minimize these factors (Siddiqui et al., 2018; Dahri et al., 2019).

This study has taken a step further by identifying the practices or factors that can help mitigate stress and burnout. Secondly, along with the family-friendly policies identified by Mohsin and Syed (2020) to sustain female health workers, this study has identified internal coping mechanisms, i.e., resilience, optimism, and self-efficacy. These factors can be enhanced through training (Jacobs, 2016). Therefore, the management of the hospitals must incorporate training and

development of their female employees to combat the stress through enhanced psychological capital.

Limitations and Directions for Future Research

Due to limited resources, the current study has adopted a comparatively small sample size, so the results cannot be generalized to a greater extent. Therefore, future research must be undertaken by taking into account a larger sample. This study focused on the stress and burnout of females only, so the study will not apply to their male counterparts.

Another limitation of this study is that it only covered the public hospitals of twin cities that have also limited the generalizability of the results. Therefore, future researchers should consider Pakistan's private and public hospitals for more accurate results and generalizability.

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