Exploring The Role Of Occupational Stress And Resilience On The Sleep Quality Among Working Population

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ABSTRACT

Employment is vital since they give individuals a feeling of purpose, financial security, and the chance to advance both personally and professionally. The 200 individuals in the research had their gender differences, resilience, work stress, and sleep quality assessed. Occupational stress had a positive correlation with sleep quality, whereas, resilience a negative correlation with sleep quality. There were gender disparities found, with men scoring better on sleep quality than women. The significance of mitigating work-related stresses and fostering resilience in order to improve sleep quality is highlighted by these findings, especially for female employees. The study adds to our knowledge of the ways in which occupational characteristics affect well-being and emphasizes the necessity of focused workplace interventions. Organizations may promote healthier work environments and enhance the general well-being of their employees by addressing these variables. To give a more thorough explanation of these linkages, future research should take into account greater demographic and occupational variety. Caution is suggested when extrapolating findings beyond the populations of the United States and India that were researched.

Keywords: *Occupational-stress, resilience, sleep quality, employees, well-being*

Introduction

Young adults were seen to have a propensity to leave home in order to pursue a career over the bulk of the 20th century, but there always seemed to be variances in the process of young people from different social and cultural backgrounds going forward (Madderla et al., 2024). People are able to receive healthcare (Perkins, 1997), education (Aiken et al., 2009), housing (Reuschke, 2016), and other necessities of life such as support for themselves and their family (Crompton, 2002). Workplace relationships are strengthened by employment (Chakraborty & Ganguly, 2019), self-esteem is increased (Kammeyer-Mueller et al., 2007), and mental health is enhanced (Loon et al., 2018). Furthermore, it fosters creativity, productivity, and community involvement, all of which advance social cohesion and economic growth (Oyekunle, 2020; Gustafsson & Lazzaro, 2021). In broad terms, work is essential for raising social resilience, decreasing poverty, and increasing quality of life (Béné et al., 2014; Wang et al., 2019).

Employees in modern organizations deal with a variety of issues that might have a serious negative effect on their psychological well-being (Chopra, 2009). Stress, anxiety, and exhaustion among individuals can be caused by a variety of factors, including high job expectations, prolonged hours of work, strong competition, and the ongoing need to adapt to technology improvements (Macdonald, 2003; Molino et al., 2019; Yener et al., 2020). Furthermore, feelings of loneliness and trouble juggling work and personal obligations can result from the mixing of work and personal life borders, which is made worse by working from home and the use of online communication methods (Adisa et al., 2022). Furthermore, the social environment of work may discourage workers from asking for assistance or talking about their difficulties due to problems which includes toxic relationships, an absence of encouragement from managers, and stigma that is associated with mental illness (Kirsh et al., 2018; Wu et al., 2021). Moreover, depression and nervousness can be made worse by the ambiguity resulting from unstable employment, structural reorganization, and financial instability (Godinić & Obrenovic, 2020; Obrenovic et al., 2021). As a result of this, employees nowadays are more susceptible to a variety of psychological issues (Elraz, 2017). This emphasizes the urgency for employers to give psychological assistance a top priority, create a positive work atmosphere (Kundu & Lata, 2017), and put employee wellness strategies into practice (Segura-Camacho et al., 2018).

1.1 Occupational Stress

Workplace stress is a global phenomenon that has been scientifically linked in several organizational and behavioral research to adversely affect efficiency, medical care, and overall well-being (Akanji, 2013). The influence of stressful work conditions on employee happiness and company accomplishments has been extensively studied, and the prevalence of this problem is widely known. A meta-analysis conducted by Nielsen et al., (2018) estimated that the prevalence of occupational stress had been almost 40% overall based on the synthesis of data from 213 separate studies with a total of over 99,000 employees. In the broadest sense, stress is understood to refer to broad emotional and psychological responses that result from an individual's adaptive skills being overworked, leading to hostile psychological or physical issues (Akanji, 2013).

Occupational stress is described by Hurrell and Aristeguieta (2005) as negative mental and physical responses that arise when an employee's need, resources, and skills are not met by the demands of their job. Over the course of time, multiple companies and scholars have provided their own descriptions of occupational stress. The World Health Organization (WHO) defines occupational stress being a person's reaction to demands and standards at work that exceed their abilities out of proportion to their skills and expertise and that make it difficult for them to handle. Furthermore, occupational stress was described as one of the negative mental and physical reactions that arise whenever the demands of an occupation are different from the abilities, assets, or requirements of the worker by the National Institute for Occupational Safety and Health (NIOSH). Occupational stress is a synonym for a similar phenomenon, which is stress brought on by one's workplace (Jacobs, 2024). Many employees experience OS in their jobs, yet they keep their stress levels bottled up because they worry about being discriminated against. This lowers organizational and employee engagement, which lowers productivity (Rasool et al., 2020). OS among employees has an impact on their capacity to make decisions, that will be detrimental to the company due to low productivity, frequent absences, high employee turnover, and significant financial costs (Reith, 2018b). Over the past several decades, occupational stress is being shown to be a significant factor that negatively affects workplace results for both people and organizations (Yousaf et al., 2019).

1.2 Resilience
As the understanding of science has grown, interpretations have changed. Scientists in a variety of fields, such as psychiatry, psychology, the field of sociology and, lately, biology, have examined resilience (Belsky & Pluess, 2013). These fields of study include genealogy, epigenetics and endocrinology, and neurobiology. Many educational institutions and professions use resilience as an idea and viewpoint. In order to foresee and adapt to shifting circumstances and catastrophe, not just for survival but additionally to develop, resilience is being incorporated into policy, practice, and company operations, spanning beyond reducing poverty via political structures and commercial strategies (Folke, 2016). According to Klein et al. (2003), the term resilience comes from the Latin word resilio, which means "to jump back." Resilience, as defined by Wu et al. (2013), involves the capacity to cope effectively in the midst hardship and misfortune. The human brain's organization and functioning may be significantly impacted by traumatic experiences, stressful situations in life, and persistent challenges. This can lead to the emergence of mental health problems such as depression as well as post-traumatic stress disorder (PTSD). A complex and continuous mechanism to adapt surviving difficulties and stress whilst retaining regular mental and bodily functions, on the other hand, is how other studies describe resilience (Russo et al., 2012; Rutter, 2012b; Southwick and Charney, 2012). Furthermore, studies conducted over the past 20 years have shown that resilience is a multifaceted quality that changes depending on a person's environment, period of life, gender, age, and socioeconomic status (Garmezy, 1985; Werner and Smith, 1992; Seligman and Csikszentmihalyi, 2000). Resilience is influenced by a variety of factors, including proactive methods of coping, individual traits, and thinking processes. These features additionally communicate with biological components to provide resilience as well as enhance adaptability to and from stressful situations (Charney, 2004). Rogers (2016) conducted an evaluation of research on educational programs aimed at enhancing the resilience of healthcare workers. These treatments included seminars on resilience, individual as well as collective reflection, cognitive-behavioral methods, and guidance. One such technique that is being studied is mindfulness-based stress reduction (Gridley, 2018). In order strengthen training topics, resilience-training programs frequently include techniques including simulations, debates, hands-on activities, and assignments (Helmreich et al., 2017). Additionally, they often include a psychoeducational component that explains the idea of resilience or certain training components such cognitive restructuring (Maj et al., 2021).

1.3 Quality of Sleep
The phrase "sleep quality" is often used in the field of sleep science, yet it lacks a strict definition. According to Miner and Kryger (2020), sleeping is a complicated biological process that is unique to every person and typically lasts for more than thirty percent of their life. The degree to which a person is content with every facet of their sleep pattern is known as the quality of their sleep. The four components of sleep quality include wakefulness following the onset of sleep, latency in sleep, duration, and its effectiveness (Nelson et al., 2022). It is possible to evaluate sleep quality objectively as well as subjectively. When gathering data on sleep factors, objective techniques like actigraphy and polysomnography (PSG) show excellent dependability (Krystal, 2008).

According to Cappellini et al. (2009), sleep is also important for acquiring knowledge, retention of information, growth in physique, mood control, and overall quality of life. Many factors, including the presence of long-term medical conditions, increased anxiety and symptoms of major depressive disorders, social variables, dietary habits, routine, state of mind, exercising, weight gain, mental health, aging, drug and alcohol intake, regular caffeine usage, addiction to nicotine from smoking, reliance on alcohol, and high levels of stress, have been linked to poor sleep quality, according to numerous studies. (Wu et al., 2012; Cohrs et al., 2012 & Kashani, et al., 2012; Liet al., 2013; Ogeilet al., 2015; Fawale et al., 2017).

Long-term inadequate sleep impairs immunity and raises the possibility of hormonal dysregulation, weight gain, coronary artery disease, and hypotension (Young et al., 2002). Delayed sleep disturbances have a tendency to cause possibly fatal symptoms since they are not just a result of medical issues but are additionally the main cause of other diseases (Baglioni et al., 2011). Due to decreased efficiency in the workplace, inadequate sleep also contributes to a significant yearly financial loss; in the United States, for example, where over one-third of adults regularly lack adequate sleep, this loss is expected to range from $299 billion dollars to $433 billion by 2020 (Hafner et al., 2017).

Rationale of the study

The goal of the research is to better understand the intricate relationships that exist between resilience, occupational stress, and sleep quality in the workforce. The study aims to fill the gap within the field by investigating these variables in the framework of employees and how they relate to personal resilience levels, occupational stresses, and the overall effect these variables have on sleep quality. Gaining an understanding of these relationships is crucial to creating workplace policies and treatments that are specifically designed to improve sleep health and employee well-being, eventually improving individual as well as organizational results. This research will add to the reservoir of literature already available on workplace well-being and offer insightful advice on how to promote healthier work conditions and enhance the welfare of employees as a whole to employers, legislators, and healthcare experts.

METHODLOGY

Research question:
The objective of the research is to get a thorough understanding of how occupational stress, resilience and sleep quality interact in a working population. The focus of the study is to elucidate the intricate links between these psychological factors and how they collectively affect the sleep patterns of people working in a variety of professional environments. Additionally, the study helps in understanding the gender differences in sleep quality in the working population.

Objectives:
1. To determine the relationship between occupational stress and quality of sleep among work force.
2. To determine the relationship between resilience and quality of sleep among working population.
3. To determine the gender differences with respect to quality of sleep.

Hypotheses:
1. There is no significant association between occupational stress and quality of sleep in the working population.
2. There is no significant association between resilience and quality of sleep in the working population.
3. There is no significant gender differences with respect to quality of sleep among working population.

Research Design:
The study in cross-sectional quantitative study.

Sample:
200 employees from India and US (100 each) of various occupations.

Instruments used:
Job Stress Scale (Parker)
The measure uses 13 items to measure job stress experienced by an individual. It is scored on a 5 point Likert scale and a score of 1 is denoted by "Strongly Disagree" and a 5 by "Strongly Agreed". Coefficient alpha values ranged from .71 to .82

Resilience (CD-RISC 10)
The CD-RISC 10 is a unidimensional self-reported scale consisting of 10-items measuring resilience. Respondents rate items on a 5-point Likert scale, ranging from 0 (not true at all) to 4 (true nearly all the time). Each item has a minimum

score of 0 and a maximum score of 4. Total scores for the CD-RISC 10 range from a minimum of 0 to a maximum of 40. reliability of the scale by Cronbach's alpha; the coefficient for the CD-RISC-10 is 0.84 with a 95% confidence interval [0.82; 0.86].

Sleep Quality Scale (Yi, Shin & Shin)

Consisting of 28 items, the SQS evaluates six domains of sleep quality: daytime symptoms, restoration after sleep, problems initiating and maintaining sleep, difficulty waking, and sleep satisfaction. The scale has been validated in individuals aged 18–59 years. An internal consistency of .92, a test-retest reliability of .81. Using a four-point, Likert-type scale, respondents indicate how frequently they exhibit certain sleep behaviours (0 = "few," 1 = "sometimes," 2 = "often," and 3 = "almost always"). Scores on items belong to factors 2 and 5 (restoration after sleep and satisfaction with sleep) and are reversed before being tallied. Total scores can range from 0 to 84, with higher scores demoting more acute sleep problems.

Analysis of data:

Descriptive statistics:

Table 1: *Descriptive statistics of the demographic details*

Demographic Details	N	Mean	Standard Deviation
Age	200	34.795	7.643
Years of employment	200	10.980	7.596
Working hours per week	200	32.805	15.88

In this study of 200 participants, the average age was 34.795 years (SD = 7.643), with an average of 10.980 years of employment (SD = 7.596). Participants reported working an average of 32.805 hours per week (SD = 15.88).

Correlation

Table 2: *Correlation values between occupational stress, resilience and quality of sleep*

Variables	1	2	3
1. Occupational Stress	1		
2. Resilience	-.351**	1	
3. Quality of Sleep	.449**	-.198**	1

Note: *p<0.05 level (2-tailed), **p<0.01 level

Occupational stress exhibited a negative correlation with resilience (r = -.351, p < 0.01) and a positive correlation with sleep quality (r = .449, p < 0.01). Conversely, resilience demonstrated a positive correlation with sleep quality (r = -.198, p < 0.01).

Gender:

Table 2: Gender differences among quality of sleep

Variables	Males (N=100)		Females (N=100)		t-value
	Mean	SD	Mean	SD	
Quality of sleep	39.03	13.43	42.77	11.79	-2.092

The mean score for quality of sleep among males was 39.03 (SD = 13.43), while females reported a higher mean score of 42.77 (SD = 11.79).

Discussion

The objective of the study was to get a thorough understanding of how occupational stress, resilience, and sleep quality interact in a working population. The purpose of the study is to elucidate the intricate links between these psychological factors and how they collectively affect the sleep patterns of people working in a variety of professional environments. Additionally, the study helps in understanding the gender differences in sleep quality.

The sample size used for the study was N= 200. The demographic details collected for the same were age (Mean= 34.795; SD= 7.643), years of employment (Mean= 10.980; SD= 7.596) and working hours per week (Mean= 32.805; SD= 15.886).

The results of the current study indicate that there is a significant positive correlation between occupational stress and sleep quality, indicating that those who experience higher levels of professional stress also tend to have worse quality sleep. Previous field research (Song et al., 2017; de Sousa et al., 2018) corroborate this conclusion. Occupational stresses can cause increased physiological arousal and psychological discomfort, making it challenging for people to unwind and get restorative sleep. Examples of these stressors include high job demands, limited job control, and interpersonal disputes. The link between professional stress and sleep disruptions is cyclical; on the one hand, poor sleep quality can cause sleep disturbances that worsen feelings of stress and impede coping mechanisms. Long-term occupational stress and poor sleep quality can have detrimental effects on both physical and mental health.

Individuals with higher resilience levels often have better sleep quality, according to the study's strong negative association between resilience and sleep quality. This outcome validates other study projects carried out by different investigators in the last few years (Li et al., 2019; Lenzo et al., 2022; Cai et al., 2023). The capacity for adaptation and recovery from adversity, or resilience, may operate as a buffer against the detrimental effects of stress and adversity on sleep. Effective coping mechanisms, decreased physiological arousal, and improved emotional control are all linked to high resilience and can help improve sleep hygiene and general sleep quality. Resilience not only encourages healthy coping mechanisms and emotional control, but it also builds optimism and self-efficacy, both of which have a favorable impact on the quality of sleep. Neuroanatomical alterations in regions of the brain implicated in stress management, emotional processing, and sleep-wake regulation are frequently connected to a negative connection between resilience and sleep quality. A person's incapacity to manage stresses well is a sign of reduced resilience, which can result in changes to the structure and functionality of important brain regions.

Subsequently analyzing the sleep quality score comparison between both genders, it is apparent that the t-value of -2.092 indicates that the mean sleep quality scores of females (M = 42.77, SD = 11.79) are substantially higher than those of males (M = 39.03, SD = 13.43). The previously mentioned findings indicate that women have more sleep interruptions and issues than men. Stress, anxiety, and mood problems are more common in women and are strongly associated with sleep difficulties. Among female professionals, the stress of juggling job commitments with childcare chores, home responsibilities, and societal expectations may worsen sleep issues and increase psychological anguish. Gender differences in the workplace can also lead to chronic stress and poor sleep quality. Examples of these differences include uneven remuneration, few prospects for job progression, and discrimination.

LIMITATIONS OF THE STUDY:

Considering the study only focused on working people from the United States and India, its generalizability was restricted. Given that differences in work cultures and healthcare systems may have different effects in different populations, care must be taken when extending the findings to other nations or cultural contexts. Moreover, the study is that it did not separate individuals according to their particular work positions or professional sectors. Different professions have different job demands, organizational cultures, and stresses, all of which may have a big influence on how people feel about stress, how resilient they are, and how well they sleep.

CONCLUSION

The results of this 200-individuals study show relationships between gender differences, resilience, work-related stress, and sleep quality. Workplace stress is favorably correlated with sleep quality but adversely correlated with resilience. On the other hand, resilience and sleep quality have a favorable correlation. When it comes to sleep quality, women rate it higher than men. These results highlight the complex interplay of gender differences, resilience, sleep quality, and work-related stresses, underscoring the need of addressing these variables to support worker well-being. These findings emphasize the necessity of therapies that focus on resilience and work-related stresses in order to enhance sleep quality, especially for female employees.

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