Association between Quality of Sleep and Self-Reported Health with Burnout in Employees: Does Increasing Burnout Lead to Reduced Work Performance among Employees

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Objectives: To determine the effect of quality of sleep (SL) and self-reported health (SRH) on burnout (BO) and whether burnout, in turn, impacts work performance (WP) among employees of the Higher Educational Institutions (HEI's). **Methods:** Data was collected using the survey method using questionnaire items adapted from the literature. The final sample consisted of 138 employees. A two-step procedure was conducted using AMOS by first employing confirmatory factory analysis followed by structural equation modeling. **Results:** The results supported the hypotheses proposed in the study as SL positively and significantly impacted employee burnout. Similarly, SRH was found to have a significant positive association with BO while BO significantly and negatively affected WP. **Conclusion:** Employees' work performance reduces with increased burnout which is aggravated due to poor sleep quality and self-reported health; hence, the study provides insightful contribution for managers and workers to focus on improving work performance by reducing burnout.

Keywords: quality of sleep, self-reported health, burnout, work performance, Higher Educational Institutions (HEI's)

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Job burnout can be found In all occupational fields.[1] Daniel[2] finds that when employees face severe pressure and strain, it results in job burnout. Job burnout is highly costly for organizations and employees as well. It causes a negative impact on the physical and mental well-being of workers. Haynes et al.[3] observe several factors responsible for job burnout such as withdrawal from others, increased job quitting intentions, mental and physical health issues, disturbed work-life balance, increased substance abuse problems, and conflicts at home with their families and spouses. According to Wu et al.[4], unless individual who experiences job burnout can get help and support from others, they may find it challenging to do their regular tasks and routine work at an ordinary level—job burnout results in reduced work performance. As a consequence, there would be increased absenteeism among the employees[5] and lead to disengagement with the job, resulting in increased turnover rate and turnover intention. In the burnout state, managers and leaders find it challenging to work with such employees who work according to their will and have resistance to change their attitudes towards work.[6] Swanson et al.[7] further argued that several organizations are charged with the primary responsibility of safeguarding and monitoring uncooperative and unwilling employees which may eventually result in workplace stress and job burnout, negatively impacting organizational performance and workplace environment.

The physical and mental health of the employees is significant for their overall well-being and for the sustainability and improved performance of the organization.[8] The better well-being of an organization's employees positively impacts the organization and the community as a whole because organizations have the potential to impact society and the organization itself.[9] The poor mental health of employees is likely to influence their work performance negatively.[10] Thus, their psychological well-being contributes at an alarming rate to their job burnout behaviour, reducing their focus and engagement in their work tasks.[11] Job burnout

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due to mental well-being is increasingly reported in organizations worldwide, particularly in this context of the current study, i.e., Saudi Arabia.[12]

This study aims to examine the relationship between sleep quality and self-reported health with burnout in employees and to analyze the impact of burnout on employees' work performance. It has been observed that, primarily due to the covid-19 pandemic, the mental well-being of employees is an increasing concern in multi-national corporations because their mental health is directly associated with their work performance.[13] In addition to their psychological well-being, their health behaviours, particularly sleep quality, directly contribute to the employees' overall health.[14] Significant job stress for employees includes disturbed nighttime sleep, psychological stress, daytime exposure to physical environmental factors, stressful working conditions, stressful life events, and daily hassles.[15] The quality of sleep significantly influences the employee's level of participation and job engagement; if an employee has disturbed or insufficient sleep, they will not actively participate in their job the next day. Thus, this leads to psychophysiological insomnia that may cause burnout.[16] According to Srivastava et al.[17], there is a negative association between job burnout and the performance of employees. The employees' performance is the bottom line for the success of any organization.

LITERATURE REVIEW

Theoretical Background

Employee burnout and their performance continue to be a topic of significant interest for researchers and theorists. From the theoretical lens, burnout syndrome is an individual response to severe work stress, and its progression can result in health alterations.[18] From a psychological perspective, chronic health deterioration leads to severe damage at a cognitive, attitudinal, and emotional level.[19] The concept is traced back to the conceptual sphere, where it is critically dealt with by Freudenberger[20], who described it as exhaustion due to the professional activities related to severe physical work stress. Later the concept evolved in the hand of Maslach[21], whose burnout theory and inventory enriched the perception of the association between work environment, employee performance, and the impact of burnout. As per their conceptualization, burnout is an emotional phenomenon that impacts many factors outside of the cover. Orosz et al.[22] identified the conceptual issues and added a biological perspective to the burnout condition. According to them, the condition embodies psychological symptoms necessary to study biological parameters i.e. brain and heart functioning, and health maintenance issues. On this theoretical base, thi study examines the multi-dynamic relationship between sleep quality, self-reported health, burnout, and employees' work performance at Saudi Higher Educational Institutions (HEIs).

Impact of Quality of Sleep on Employee Burnout

The poor work-life balance and quality of life yield chronic outcomes in terms of psychological and biological health. One of the major indicators of burnout condition is the quality of sleep. Kancherla et al.[23] identify insufficient sleep as a core reason for poor health. Sleep disorders are the major risk factors in burnout susceptibility, leading to chronic health issues. Grossi et al.[24] argue that sleep highly impacts physiological and psychological functioning. The quantity and quality of sleep determine the severity of burnout syndrome. The relationship between well-being and sleep quality also draws attention to health consequences, including physical difficulties, disorientation and concentration. Stewart et al.[25] highlight the occupational and personal factors regulating employee burnout. According to them, sleep deprivation deteriorating health and burnout are intricately linked. From the viewpoint of Wu et al.[26], sleep quality is a subjective term, and it includes sleep latency, sleep depth, and sleep comfort. The frequency of these factors impacts the quality of sleep, affecting mental and physical health. Brubaker et al.[27] report that the interventions in sleep results in sleep issues, which causes stress and burnout. The intervention of electronic devices determines burnout scores and perceived stress. Młynarska et al.[28] outline that the sleep disorders happens due to the socio-demographic factors. These factors collectively define the sleep quality and well-being of employees. In the case of severe sleep disorders, there are increased chances of burnout. Mendelsohn et al.[29] concluded that sleep indirectly affects burnout due to extreme physical activity, which yields poor sleep quality. Employees in high demand of physical labor are more prone to deprived sleep and, as a result, frequent burnout. This leads to frame the first hypothesis of the study:

Hypothesis 1: *Sleep quality has a significant impact on employee burnout.*

Self-reported health and Employee burnout

Evaluating personal and professional life brings out multiple factors, i.e., biological, mental, and social merits on which self-reported health operates. Jarvis et al.[30] identified a few dimensions of self-reported health. According to them, the variations in the natural environment have a differential impact on physical and mental health. In continuation with this perspective, it is inferred that the living and professional environment has different indicators for health. Trockel et al.[31] identify that employees who work in extreme conditions and have tougher work-life integration are more prone to job stress and burnout. Giess et al.[32] demonstrate that employees who find their work environment less stressful are more stable and healthy on the self-reported index.

On the contrary, the frazzled work environment and bad peer roles negatively impact health. Self-reported health, therefore, illustrates that professional settings tend to increase or decrease burnout. Hamidi et al.[33] report that the institutional turnover is significantly attributed to the self-reported burnout. Šolcová et al.[34] highlight the importance of self-reported health status in predicting burnout and resilience. It provides significant evidence that health-related self-perception strongly impacts the resilience and burnout of young people. Kakemam et al.[35] emphasize that the higher number of burnout is correlated with self-reported quality. Giess et al.[36] report that self-reported health includes individual and institutional factors including sleep. Impairment, self-compassion, and supervisor-faculty interaction can either increase or decrease burnout. Thomas et al.[37] conclude that self-perceived health is the strongest health predictor impacting subsequent outcomes. The personal and professional factors may predict adverse self-reported health outcomes which can lead toward consistent burnout. This leads to frame the second hypothesis of the study:

Hypothesis 2: *Self-reported health is significantly associated with employee burnout.*

Impact of Burnout on work performance

World Health Organization categorize burnout as a professional disease in the International Statistical Classification of Diseases and Related Health Problems.[38] It implies that professional efficacy and burnout are strongly associated with psychological, emotional, and physical terms.[39] Khan et al.[40] highlighted that the employees' work outcomes depend on multiple factors, including supervision role, work environment, and personal factors. From their viewpoint, working burnout and work performance are negatively associated. Sanchez-Gomez et al.[41] argue that burnout has a very defined relationship with work performance. Mental and physical exhaustion are negatively connected to emotional intelligence and productive performance. Suwiknyo[42] report that the attitude and aptitude of employees determine the burnout rates, which, as a result, impacts work performance. Kim et al.[43] state that burnout mediates job level and satisfaction. Burnout pessimism, exhaustion, and professional inefficacy control the level of job satisfaction and job performance. Jyoti et al.[44] have also examined the mediating role of burnout between work performance and intention to leave. The increased burnout slows down the employees' performance and negatively impacts their job resilience.[45] Zeng et al.[46] report that burnout involves work-related stress, which impacts the dual end. On one side, it impacts mental health, and on the other, retards work performance. The prevalence of high burnout in employees often results in poor performance and bad health. Wu et al.[26] concluded that professionals in Higher Educational Institutions (HEIs) are more prone to work-family imbalance, resulting in job burnout and poor work performance. Professional job burnout plays a negative role in managing personal life and business life and vice versa. This leads to frame the third hypothesis of the study:

Hypothesis 3: *Burnout is negatively associated with work performance.*

METHODOLOGY

Method and Sampling strategy

A quantitative research design was chosen for this study. The study collected and analyzed numerical data. It used non-probability sampling that was further categorized by convenience and purposive sampling methods. The purposive sampling was used to select the corporations but convenience sampling was used to reach out to the employees for data collection. The study targeted employees working in Higher Educational Institutions (HEIs) within Saudi Arabia.

Data Collection

In order to collect the data from the targeted respondents, the study designed a close-ended questionnaire comprising thirty-five questions. This questionnaire was sent to the employees working in Higher Educational Institutions (HEI's) through their email. Around 700 questionnaires were sent, and 150 workers responded. After discarding the incomplete questionnaires, a total of 138 questionnaires were analyzed for the study. The employees' mental health was measured based on a five-item scale,[47] job burnout was based on a ten-item scale,[48] self-reported health behaviors were operationalized on three items,[49] and sleep quality was measured through a five-item scale.[50]

Data Analysis

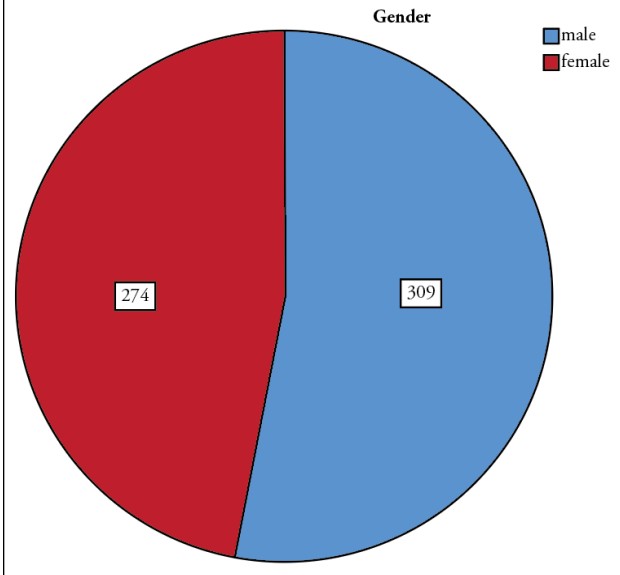
For data analysis, the AMOS statistical software was utilized, and for testing the relationship between the observed variables of the study, SEM (Structural equation modeling) was used.

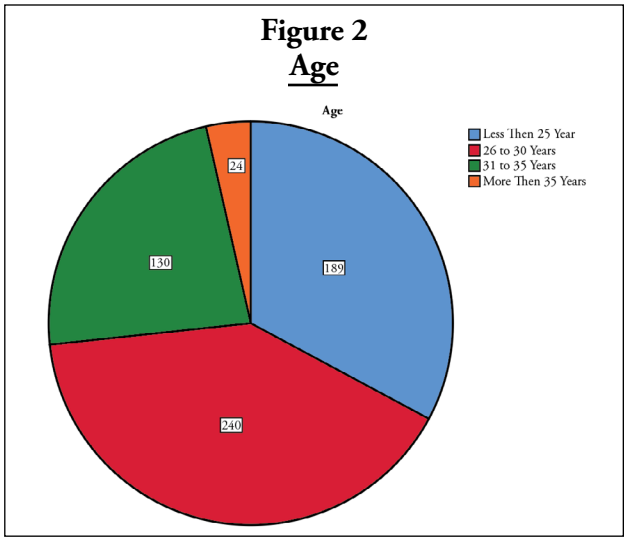
RESULTS

Demographic Profile

Right at the outset, the employees' demographic characteristics were analyzed. Figures 1 to 3 show the demographic profile of the 138 employees of this study. As per Figure 1, 46.9% of the respondents were female, whereas 53.1% were male.

Figure 1
Gender





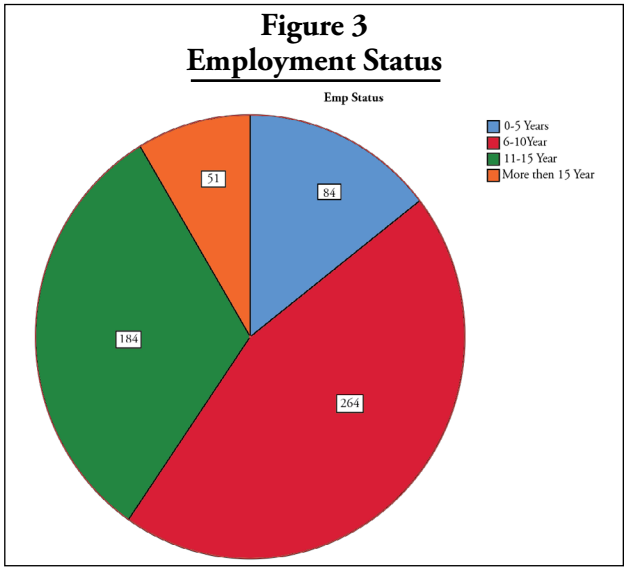


Figure 2 shows the age range of respondents where the majority of the participants were between 26 to 30 years old, 32.4% of participants were below 25 years old, and only twenty-four participants (5.5%) were above 35. Moreover, Figure 3 displays the employment experience of employees in the Higher Educational Institutions (HEI's). It can be observed that 45.3% of the employees had a work experience of 6 to 10 years, 31.6% responded to 11-15 years of work experience, and 14.4% had relatively less work experience, 0 to 5 years, compared to the rest.

Descriptive Results

Descriptive statistics enable researchers to present the data meaningfully, as shown in Table 1. A 5-point Likert Scale was used to measure the items; hence,

minimum and maximum values ranged from 1 to 5, respectively. The sample comprised 138 responses, and the mean values of BO, WP, SL, and SRH ranged from 2.99 to 3.5. Table 3 shows that the values for Kurtosis are within the specified range of -2 and 2.[51,52]

Table 1
Descriptive Variables

	N	Min	Max	Mean	SD	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
BO	138	1.00	5.00	3.2384	1.03613	-.818	.202
WP	138	1.00	5.00	3.2017	.91134	-.811	.202
SL	138	1.00	5.00	3.5026	1.11457	-.746	.202
SRH	138	1.00	5.00	2.9971	1.18995	-1.071	.202
Valid N (listwise)	138						

BO=Burnout, WP=Work Performance, SL=Sleep Quality, SRH=Self-Reported Health

Sample Adequacy & Suitability

In order to assess the adequate sample and suitability of data for factor analysis, the study employed KMO and Bartlett's Test; the results are shown in Table 2. Table 2 confirms that factor analysis is appropriate for the data as the KMO value is over 0.6,[53] and the significance level for Bartlett's test is below 0.05.

Table 2
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.949**
Bartlett's Test of Sphericity	Approx. Chi-Square	29696.900
	Df	595
	Sig.	.000

Validity Test

Furthermore, the data were tested for convergent and discriminant validity. As suggested by scholars,[54] composite reliability values must be higher than 0.7. Table 3 shows that the CR values for BN, WP, SL, and SRH are above 0.8. The AVE values are greater than 0.5, ensuring convergent validity.[54] Correspondingly, the square root of AVE is higher than the inter-construct correlations; therefore, discriminant validity is also confirmed.[54]

Table 3
Convergent and discriminant validity

	CR	AVE	MSV	MaxR(H)	BO	WRP	SLE	SRPH
BO	0.932	0.138	0.995	0.965	**0.763**			
WP	0.939	0.506	0.995	0.996	0.697***	**0.712**		
SL	0.905	0.706	0.183	0.910	0.405***	0.428***	**0.840**	
SRH	0.843	0.642	0.178	0.843	0.398***	0.422***	0.323***	**0.801**

BO=Burnout, WP=Work Performance, SL=Sleep Quality, SRH=Self-Reported Health

Model Fitness

The study further conducted confirmatory factor analysis using AMOS as part of the SEM technique to evaluate the hypotheses. Table 4 shows the indices used in the study to confirm the measurement model fit. The values in the table verify the fitness of the variables and confirm that the structural model fits well with the data.[55,56]

Table 4
Confirmatory Factor Analysis

CFA Indicator	Baseline	Observed Value
CMIN/df	Less than 5.00	3.758
GFI	Greater or equal to 0.80	.85
CFI	Greater or equal to 0.90	.953
IFI	Greater or equal to 0.90	.953
RMSEA	Less than or equal to 0.08	.069

The measurement model in this study is shown in Figure 4.

Figure 4
Measurement Model

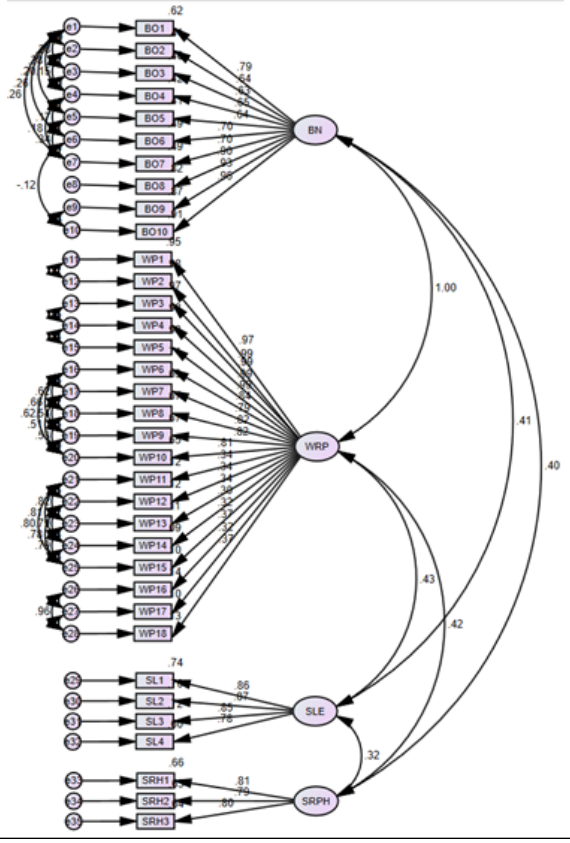


Table 5 shows the rotated component matrix employed to assess the correlations between the variables and the estimated components. Table 5 shows that the loadings are between 0.60 and 0.92. Every item precisely indicates each construct, BO, WP, SL, and SRH.

Table 5
Rotated Component Matrix

	Component			
	1	2	3	4
BO1	.820			
BO2	.676			
BO3	.682			
BO4	.728			
BO5	.712			
BO6	.802			
BO7	.804			
BO8	.863			
BO9	.887			
BO10	.890			
WP1		.905		
WP2		.915		
WP3		.908		
WP4		.912		
WP5		.912		
WP6		.884		
WP7		.851		
WP8		.868		
WP9		.872		
WP10		.852		
WP11		.887		
WP12		.886		
WP13		.888		
WP14		.881		
WP15		.873		
WP16		.895		
WP17		.761		
WP18		.891		
SL1			.765	
SL2			.752	
SL3			.755	
SL4			.716	
SRH1				.822
SRH2				.847
SRH3				.819

BO=Burnout, WP=Work Performance, SL=Sleep Quality, SRH=Self-Reported Health

Hypotheses Testing

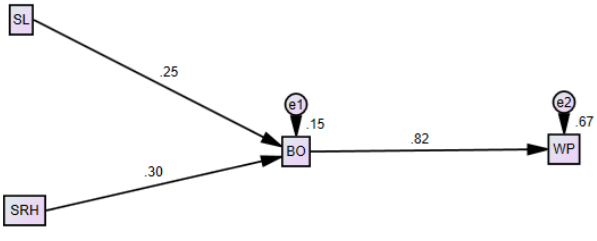
To test the hypotheses proposed, direct effects were evaluated in AMOS. Table 6 shows the findings, and it can be seen that the relationship between SL and BO is significant (β=.230, p<0.05). BO increases with increased sleep deprivation. The association between SRH and BO is also significant and positive with p<0.05 (β=.255); thus, hypotheses 1 and 2 were supported. Finally, the third hypothesis measured the effect of BO on WP among employees in the Higher Educational Institutions (HEI's), and the results supported the hypothesis as BO significantly and negatively affects WP (β=-.725, p<0.05). The SEM analysis is displayed in Figure 5.

Table 6
Structural Equation Modelling

Hypothesized Path	Estimate	S.E.	C.R.	P
SL→BO	.230	.035	6.615	***
SRH→BO	.255	.033	7.852	***
BO→WP	-.725	.021	-34.387	***

BO=Burnout, WP=Work Performance, SL=Sleep Quality, SRH=Self-Reported Health

Figure 5
SEM



DISCUSSION

The psychological perspectives provide us with deep insight into various behaviors and related factors that significantly impact mental and physical health.[57] Based on knowledge gained from the past research streams, it can be inferred that mental and stressful work performance is often the result of individual factors, i.e., perceived work value and emotional and physical health.[58] In view of Memish et al.[59] workplace mental health holds significant importance in a contemporary context as it determines individual behaviors and is impacted by multiple environmental factors. For the past few years, the Saudi government's localization policies have been transforming employees' behaviors to a great extent.[12] In the small construction industry of Saudi Arabia, the working dynamics of employees are packed with safety concerns, job burnout, and turnover.[60] The increased rate of employee dissatisfaction draws attention to the importance of mental and physical health quality in ensuring the well-being of the professionals and employees in Higher Educational Institutions (HEIs). In this regard, this study investigated significant determinants that impact burnout and the consequential impact of burnout on the performance of employees. The findings and the relevant results distinguished their importance and significance in the employees of Higher Educational Institutions (HEIs).

The results of the first hypothesis stated that sleep quality significantly impacts employees' burnout frequency and level. Based on the findings, sleep quality, and related factors regulate exhaustion and stress among working people. Numerous past studies validate these results, as Idrissi et al.[61] brought forth the multi-dimensional impact of sleep quality on the anxiety and depression of employees, which ultimately leads toward high burnout. Huang et al.[62] also demonstrated that sleep is a significant controller of mental exhaustion. The lack of sleep or poor quality sleep leads to depressive symptoms and becomes lethal for the workers. Deng et al.[63] emphasized that chronic sleep deprivation has a worse impact on the mental and health conditions of employees working on long duties, i.e., nurses and health professionals. Kotera et al.[64] related sleep quality with the work-life balance and how it can deteriorate personal health and lead to chronic burnout.

The results of the second hypothesis indicate that self-reported health is significantly associated with burnout. The work environment and choices provided by the company highly impact the mental and physical conditions of the employees. Mensah et al.[65] emphasized that the association between work-life conflict and self-reported health is of great concern. Conductive working conditions and work policies can minimize or maximize the frequency of burnout in employees. Dhaini et al.[66] identified that work schedule flexibility and self-reported exhaustion have a significant relationship. Flexible work schedule choices reinforce productive health, while the contrary leads to job burnout. Ball et al.[67] pinpointed that people with long working shifts and strict job schedules are more prone to self-reported burnout. The variation poses potential risks to the individual's job satisfaction and make them compromise on the health quality.

The results of the third hypothesis highlight that job burnout negatively associates with work performance. As Higher Educational Institutions (HEIs) have high job demands, job performance remains at constant fluctuations due to frequent burnout in employees. Wu et al.[4] highlighted that job stress and burnout negatively influence employees. From the viewpoint of Catherine Prentice,[68] employee burnout negatively impact job performance. However, in this situation, the employees' commitment mediates their relationship. Giorgi et al.[69] demonstrate that good sleep quality reduces burnout and indirectly boosts job performance. On the other hand, poor sleep quality or deprivation leads to fatigue and mental exhaustion, indirectly impacting the worker's performance. The study by Singh et al.[70] established the job crafting model, stating that stress and burnout are major obstacles to attaining better performance.

Conclusion

The present study examined the relationship between mental or physical health and employee performance in Higher Educational Institutions (HEI's) of Saudi Arabia. With the increased development in Higher Educational Institutions (HEIs) projects in this country, employees are confronting multiple issues, including sleep quality, self-reported health factors, and job performance. The results indicate poor sleep quality and sleep deprivation leading to frequent burnout. Furthermore, work schedule flexibility and choices impact self-reported health and define the occurrence of burnout.

Research Limitations and Implications

The study provides a significant contribution to existing literature; however, it incorporates some limitations. The study collected data from the employees of Higher Educational Institutions (HEI's), from the regional perspective of Saudi Arabia. Therefore, the study had geographical limitations. Regarding theoretical and practical implications, the study provides empirical evidence on the association between sleep, self-perceived health, burnout, and job performance. The findings of the study can be considered a significant extension of the existing literature on mental and physical health domains. Furthermore, in the context of practical implications, the study will assist health professionals and policymakers in Higher Educational Institutions (HEIs) in assessing the pertaining issues of the employees regarding their mental health and performance. Future researchers can analyze these issues on a broader level with a multi-national regional context. Moreover, along with these aspects, the additional related aspects, i.e., job satisfaction and job resilience, can also be studied concerning burnout conditions.

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