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INFLUENCE OF SLEEP DURATION, WORK STRESS, AND WORK–LIFE BALANCE ON JOB PERFORMANCE

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Abstract: *The purpose of this study is to examine the individual and combined effects of sleep duration, work stress, and work–life balance on job performance among employees working in educational institutions in Pakistan. A quantitative, cross-sectional research design was adopted, and data were collected through a structured survey administered to teaching and administrative staff. A total of 308 valid responses were analyzed using the Statistical Package for the Social Sciences (SPSS). Data analysis techniques included descriptive statistics, reliability analysis, Pearson correlation analysis, and multiple regression analysis to test the proposed hypotheses.*

The findings indicate that sleep duration and work–life balance have significant positive effects on job performance, while work stress has a significant negative effect. Additionally, the combined model of sleep duration, work stress, and work–life balance significantly predicts job performance. The study offers practical implications for human resource policy, workload management, and employee wellbeing initiatives. Furthermore, it contributes to the organizational behavior and occupational wellbeing literature by providing empirical evidence from the Pakistani education sector and extending understanding of performance through a wellbeing-focused perspective.

Keywords: Sleep Duration, Work Stress, Work Life Balance and Job Performance

1.1 Background of the Study

The job performance is essentially the determinant of the effectiveness of an organization as it directly influences such aspects as productivity, quality of services, reputation, and the sustainability of the organization over a long period. In business life, particularly in education, completing work is not enough, but accuracy, dedication, attendance and even those nice little extras that makes the institution run smoothly (Greenhaus and Beutell, 1985). Talented employees enhance learning, improve administration, and increase resiliency in general, thus job performance has become a popular issue in academia and management. Of late, the workload, role complexity and performance pressure have been on massive increase in schools and colleges. Educators and administration personnel are usually called upon to carry huge teaching assignments, administrative responsibilities, assessment assignments, and significant responsibility simultaneously (Göktaş, 2023).

These work requirements are often stressful, working more, and having less and less time to relax and rest. The time crunch and overload are always constant and may damage the mental health of employees

and lower their performance. All of these factors are interconnected and have a great impact on how employees think, feel and keep physically sharp: sleep, work stress, and work-life balance (Al Doghan, 2020). Adequate sleep is essential to focus and memory formation, to decision making, as well as to emotional control, all of which are needed to aid job performance. On the other hand, lack of sufficient sleep or poor sleep leaves you fatigued, sleepy, prone to mistakes and reduces productivity (Arif et al., 2022). Work stress just contributes to it by desensitizing motivation, shattering coping mechanisms, and increasing the risk of burnout.

Bad work-life balance disrupts personal wellbeing, is a contributing factor to emotional burnout and undermines the stability of engagement in work. Of particular concern in these issues are the education sector in Pakistan where scarce resources, increased number of students coupled with strict organizational structure contribute to stress on employees (Franzetti, 2024). In spite of these, little is known on how duration of sleep, work stress, and work-life balance, all confluently influence job performance at Pakistani schools. Sealing this gap is important in influencing evidence-based HR practices and creating healthier and more productive learning workplaces.

1.2 Problem Statement

Although there are numerous qualified and skilled employees in universities, many institutions continue to encounter snags in performance. We observe it through reduced productivity, work quality imbalances, increased absenteeism and a decline in involvement (Fisher et al., 2009). They cannot be attributed to simply a lack of competence or training, and that demonstrates more personal and organizational level issues. The little attention paid to sleep health and work-life balance of the employees is a major stumbling block.

In most schools, we have to follow long hours, huge workloads, and lack of separation between school and home (Deng et al., 2022). Policies tend to be more concerned with the outputs and deadlines than the health of individuals providing the work hence sleep deprivation, chronic stress and that work-life mismatch is not counted among the real causes of the performance decreases (Cohen et al., 1983). In essence, employees are informed to continue piling up outcomes as their bodily and psychological well-being are hit.

Although there is an abundance of sleep research, stress, and work-life balance research are independent, there is an apparent empty gap of research that can unite all these aspects into a single framework. That fragmentary perspective prevents us obtaining a clear picture of how each factor influences performance. The lack of data, that puts a particular emphasis on the education sector in Pakistan, contributes to the problem as well, we cannot formulate effective HR policies without having the local realities. It is essential that this gap in research be bridged to identify feasible means of improving performance as well as the well-being of employees.

1.3 Research Objectives

1. To examine the effect of sleep duration on employee job performance
2. To analyze the impact of work stress on job performance
3. To assess the role of work–life balance in enhancing job performance
4. To evaluate the combined predictive power of all three variables

2.1 Research Questions / Hypotheses

1. To assess the effect of sleep duration, work stress, and work–life balance on employee job performance.
2. To identify which independent variable has the strongest influence on job performance outcomes.

3. To provide HR policy recommendations promoting healthier and more productive workplaces.

H1: Sleep duration has a significant positive relationship with employee job performance.

H2: Work stress has a significant negative relationship with employee job performance.

H3: Work–life balance has a significant positive relationship with employee job performance.

H4: The combined influence of sleep duration, work stress, and work–life balance significantly predicts job performance.

2.2 Sleep Duration and Job Performance

Sleep is a game changer, as far as our academic performance and day-to-day life is concerned. The lack of sleep disorganizes the brain capacity to concentrate, memorize things, rapid processing of information and making of intelligent decisions (Kumari and Aithal, 2022). It is difficult to follow lectures, complete group assignments, or get right answers during exams when we are sleep-deprived. Such brain glitches occur particularly when one is forced to work a heavy load, think on his feet and cooperate with others, as it is the case in school. It does not only short our grades, but also breaks the productivity line (Kim et al., 2019). We are more apt to drop bugs, miss due dates and we tend to be sluggishly motivated during prolonged study periods.

Fatigue transforms errors into normalcy, contributes to absenteeism and causes us to fall on our feet in the lab or during the handling of equipment. This translates into poor teaching, sloppy work, and an average feel with the classmates and professors that does not really fit. In the long run racing away in the sleep deprivation causes burnout, motivation depletes, and people gravitate towards negative attitude towards the work, which rocks performance (Kanthraj et al., 2025). The sleep-performance relationship is validated in workplace studies. When one gets enough sleep, he is more energetic, more active, and does more.

On the other hand, lack of sleep is most likely to cause increased undesirable behaviors, increased sick days, and reduced scores on performance. This is supported by a big video-analysis of data assuring the fact that it is not only the lack of sleep per se, but its doubling under the stress of demanding tasks that has an adverse impact on performance (Iswahyudi and Ramadhani, 2023). Therefore, ensuring that we get good sleep is a major consideration in case we are keen to achieve goals at the workplace. In our case as students in the higher learning institutions where the brain works twenty-four hours around the clock, we particularly crash during short nights. An understanding of the role of sleep in performance is a good enough motivation to make it a significant predictor in this research (Irfan et al., 2023).

2.3 Work Stress and Job Performance

Work stress is a psychological and physiological reaction created when a work demand is higher than an individual can manage. This phenomenon is normally triggered by too much work, time stress, role ambiguity, role conflict, reduction in control and insufficient organizational support (Hwang and Yu, 2021). In the field of education, the staff constantly face a variety of stressors, including heavy teaching loads, administrative tasks, performance reviews, and the need to meet the institutional and academic standards. When there is a lack of resources or time to rest, such pressures can become chronic and harmful stress (Irfan et al., 2023). The prolonged effects of work-related stress on the person include anxiety, irritability, emotional depletion and low job satisfaction.

At the cognitive level, stressed individuals experience deficiency of attention, loss of memory, and diminished problem solving abilities. Chronic work stress, at the behavioral level, is related to absenteeism, presenteeism, withdrawal, reduced engagement, and increased interpersonal conflict propensity. Continuous stress will ultimately lead to burnout, a condition characterized by emotional fatigue, depersonalization, and non-effective professional efficacy, which significantly affects the able and effective performance of employees (Litwiller et al., 2017). The interface between work stress and

job performance has been empirically studied to a large extent in occupational research.

Though moderate stress can temporarily increase alertness, chronic or severe stress proves to have negative effects on performance. Systematic studies show that a steady negative correlation is found between high levels of stress and key performance indices such as productivity, accuracy and task completion (Lu et al., 2019). Stress causes employees to make more mistakes, slow down their working speeds and reduces their discretionary efforts.

In the educational institution setting, these dynamics may be in the form of reduced educational standards, poor administration and organizational disillusionment. Further evidence shows that work stress is referred to other variables like lack of sleep and poor work-life balance hence enhancing its negative impact on performance (Kumari and Aithal, 2022). However, these results emphasize the need to consider work stress as a key antecedent of job performance and support its inclusion in the overall model that is used in the present study.

2.4 Work–Life Balance and Job Performance

The working life balance refers to the ability of a person to establish and combine work related tasks with personal and family life successfully. The current literature separates work-life conflict and work-life enhancement: the first involves demands on one domain hampering the performance in the other, whereas the second case involves the experience on one domain supporting the performance and wellbeing in the other (Hege et al., 2019). There are recurrent findings of increased work-life conflict being correlated with increased stress, fatigue and poor job performance on the other hand, enhanced work-life is correlated with enhanced energy, motivation and positive work attitudes.

In order to grasp the multidimensionality of work-life balance, researchers generally examine three dimensions: Work Interference with Personal life (WIPL), Personal life Interference with Work (PLIW), and Work-Personal life Enhancement (WPLE). WIPL represents how work requires the sacrifice of personal time and endeavors and thus the development of emotional stress and diminished recovery (Holden and Sunindijo, 2018). PLIW is how much individual responsibility interferes with work-related tasks and concentration.

Conversely, WPLE emphasizes that there is a positive spillover between personal life and work wherein to the extent that personal environments and positive experiences are supportive, there is an increase in work performance and coping capacity. Empirical studies have found that there is a negative relationship between high levels of WIPL and PLIW and job engagement, satisfaction, and performance (Tejero et al., 2021). People who are often interrupted often complain that their feelings are exhausted, their commitment is weaken, and their productivity is decreased. On the other hand, it has been shown that engagement, resilience, and job satisfaction are strengthened by WPLE, which provides psychological resources in the case of work-stress and serves as a buffer.

When employees experience positive working-family relations, they tend to demonstrate continuing effort, organizational citizenship and high performance (Nadeem et al., 2024). In the context of educational institutions, where the personnel are forced to face hard schedules and emotional labor, the preservation of the work-life balance is of special importance (Nishioka et al., 2023). Understanding the role of different aspects of work-life balance in influencing job performance contributes to developing a plan that supports sustainable employee and organizational wellbeing, hence the importance of this aspect to the current study

2.5 Comparative Analysis of Previous Studies

The comparative analysis of the existing studies shows that there is a significant overlap in terms of the impact of sleep duration, work stress, and work-life balance on job performance. There is a great deal of empirical evidence that has repeatedly indicated that sufficient sleep correlates proceedingly with mental processing, output, and precision of performing activities, and sleep deprivation leads to

exhaustion, lapses of attention and enhanced rates of errors (Soleimani et al., 2024). Similarly, there is a solid body of literature that confirms that work stress has a negative correlation with job performance, and high-stress levels are associated with low efficiency, low engagement levels, and high absenteeism rates.

Studies of work-life balance also come to the conclusion that work-life conflict impairs employee well-being and performance, but work-life enhancement encourages employee engagement, satisfaction, and discretionary effort (Tejero et al., 2021). With these convergent findings, there are some contradictory results that can be seen in the literature. There are research findings that a moderate amount of stress can temporarily improve alertness and performance especially in the short term or task specific settings.

There are also differences in the magnitude and direction of work-life balance dimension-performance outcome relationships with some studies showing weaker or no significant relationships. The following inconsistencies can be explained by the contextual differences, including the type of industry, cultural environment or support systems in the organization, or the operationalization of the constructs (Shah and Parekh, 2023). Dissimilarities in methodology also lead to difference in the findings of the studies. Previous studies differ considerably in terms of research design (e.g., cross-sectional versus longitudinal), sample properties (e.g. occupation, work schedules, demographic composition).

The measurement instruments are also not the same, some of the studies use single items indicators and others are using validated multi-dimensional scales. In addition, most research studies investigate sleep, stress, or work-life balance, instead of in an integrated framework. Such differences in methods limit the comparability and generalizability of results (Soleimani et al., 2024). To overcome such shortcomings, the current research uses standardized scales of measurement, a combined analytical model, and a narrow analysis of education establishments in Pakistan. The methodology is more consistent and adds context-specific empirical evidence to the current literature.

2.6 Identified Research Gaps

The gap in the existing literature that has been critically reviewed outlines various gaps that justify the necessity of the current research. First of all, it is evident that the lack of integrated theoretical frameworks that simultaneously test sleep duration, work stress, and work-life balance as conjunctive antecedents of job performance is conspicuous. The previous empirical studies have predominantly questioned these variables separately, thus limiting the understanding of their interactive effect and overall influence on the efficacy of employees. This highly disjointed methodological position fails to recognize the interdependence of sleep, stress and work-life balance, which together shape cognitive functioning, affective well-being and work behaviors (Schmitt et al., 2017).

Secondly, the educational sector is still significantly underserved in the collection of empirical research on the topic of workplace well-being and performance. Whereas there is a strong body of research available in corporate, health-care, and industrial milieus, the research that is focused on educational institutions is relatively few. Experts in this field face unique work pressures such as emotional labour, multi-role nature of work and continuous performance review, thus augmenting the toxicity of sleep deprivation, stress and work-life imbalance (Rohwer et al., 2022). Lack of sector-specific evidence limits the external validity of generalised results to the educational sphere.

Thirdly, the empirical evidence that came out of developing countries especially Pakistan is highly constrained. Most of the prior researches are based in the Western or high-income environment, where organisational set ups, labour regulations, and cultural demands are radically different than in Pakistan (Nadeem et al., 2024). Pakistani schools often have a material constraint, a high number of students per teacher, and poor formal well being policy, thus, possibly playing down the nature and also the strength of the relationships between sleep, stress, work life balance, and job performance.

The lack of localized empirical studies compromises the evidence-based human-resource decision-

making in Pakistani educational institutions. Through the attempt to fill these two identified gaps, therefore, the current study provides a comprehensive, situational analysis of critical well-being determinants in determining job performance, which contributes to improved theoretical understanding and practical relevance.

Area	Observed Gap in Existing Literature	How the Present Study Addresses the Gap
Integrated Models	Variables studied independently, not jointly	Examines sleep duration, work stress, and work–life balance within a single analytical framework
Sectoral Focus	Limited studies in education sector	Focuses exclusively on teaching and administrative staff in educational institutions
Geographic Context	Predominantly Western-based research	Provides empirical evidence from Pakistan
Contextual Relevance	Limited consideration of local work conditions	Incorporates cultural and organizational realities of Pakistani education sector
Methodological Consistency	Varied instruments and designs	Uses standardized scales and SPSS-based quantitative analysis

2.7 Conceptual Framework

The theoretical framework outlined in this section illustrates the theorized relationships between sleep duration, occupational stress, work-life balance and job performance by employees. In this construct, sleep time, work stress, and work-life balance are the independent variables, and job performance is the dependent variable. Job performance is conceptualized as a multidisciplinary construct which includes productivity, accuracy, attendance, supervisor rating and task completion (Nishioka et al., 2023). In addition, the inclusion of demographic covariates such as age, occupation, and work schedule is taken as control variables to enable individual and contextual heterogeneity to be taken into consideration, which could influence the performance outcomes.

The proposed relationships are pegged on available empirical data and the Attribution Theory. The adequate length of sleep is expected to contribute to cognitive functioning, attentional capacity, and affective control, which will have a positive impact on job performance. On the other hand, it is proposed that increased work-related stress leads to poor concentration, motivation, and coping, which negatively affect performance. An ideal balance of work and life is likely to support restorative mechanisms, maintain engagement, and create a positive spill over between the personal and professional lives (Ntumi et al., 2025). The combination of these variables into a common framework makes the model capture the synergies and interplay effects of the wellbeing related determinants on employee performance in educational institutions.

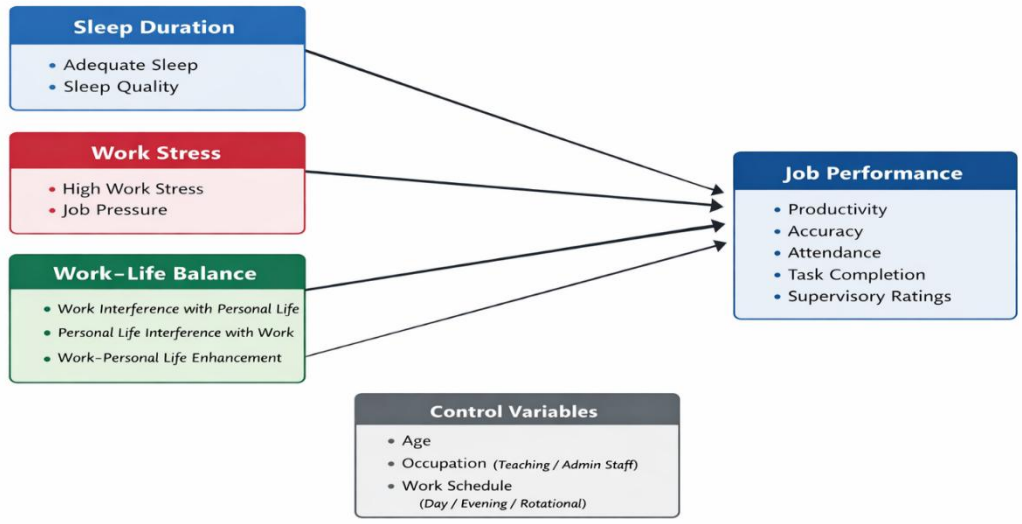

Figure 1. Influence of Sleep Duration, Work Stress, and Work–Life Balance on Job Performance

3.1 Research Design

The design of this study is a quantitative, explanatory, and cross-sectional, where the researcher addresses the relationship between sleep duration, occupational stress and work-life balance and job performance. The quantitative paradigm allows objective evaluation of the constructs using standardized measures and allows strict statistical analysis using SPSS. A testable hypothesis framework is used to test hypothesized relationships, as well as to determine the predictive power of the independent variables as far as job performance outcomes are concerned (Shah and Parekh, 2023). The information was accrued at one point of time, which made the study cross-sectional. Such a methodological design is appropriate in the detection of trends and relationships among the group of personnel in educational institutions, and at the same time, methodological strength and efficiency is maintained.

3.2 Sampling Technique and Sample Size

This study uses non-probability convenience sampling technique, as this approach is considered to be appropriate when recruiting respondents, who are easily available and would be willing to take part. This method is commonly applied in the organizational and educational studies where it is difficult to build up extensive sampling frames. The determination of sample size is in accordance with the recommendations provided by Hair et al. (2017), stating that a minimum of ten subjects of the observed variable is necessary to ensure the multivariate analysis with the required statistical reliability. In the context of the number of variables that were observed in the current study, a target population of 300-350 respondents was chosen. This sample size has been sufficient to support strong SPSS-based analysis, enhance statistical power, and make substantively significant meaning out of the findings.

3.3 Data Collection Instrument

Section	Construct Measured	Description
A	Demographic Information	Collects respondent background data including gender, age, marital status, job category, work experience, and work schedule. These variables are used to describe the sample and serve as control variables in statistical analysis.
B	Sleep Duration and Quality	Measures sleep adequacy, sleep quality, fatigue, and recovery using adapted items from established sleep studies. Assesses average sleep duration on workdays and non-workdays and its impact on work-related energy levels.
C	Work Stress	Assesses perceived work stress using items adapted from the Perceived Stress Scale. Captures stress intensity, perceived control, emotional strain, and coping ability related to work demands.
D	Work–Life Balance	Examines work–life balance through three dimensions: work interference with personal life, personal life interference with work, and work–personal life enhancement, reflecting both conflict and positive spillover.
E	Job Performance (OCB Dimensions)	Measures job performance using organizational citizenship behavior dimensions, including altruism, conscientiousness, sportsmanship, courtesy, and civic virtue, capturing both task and discretionary performance behaviors.

3.4 Measurement Scales

- **Sleep Duration:** Measured through self-reported average hours of sleep per night on workdays.
- **Work Stress:** Measured using a 5-point Likert scale adapted from Cohen et al.'s Perceived Stress Scale (1983).

- **Work–Life Balance:** Measured through a 5-point Likert scale adapted from Fisher et al. (2009).
- **Job Performance:** Measured using Podsakoff and MacKenzie's (1989) scale covering productivity, accuracy, attendance, and task completion

3.5 Data Analysis Techniques (SPSS)

The analysis of data was done using Statistical Package of the Social Sciences (SPSS). The first step was thorough data cleaning and coding, during which unanswered questions, blank cells, and outliers were determined and dealt with, and question items that were reverse-coded were recoded accordingly. Types of descriptive statistics (frequency, means, and standard deviations) were used to summarize demographic variables and other significant variables in the study. To determine internal consistency of the measurement scales, reliability analysis was done with the help of Cronbach alpha.

After that Pearson correlation analysis was used in order to determine the strength of relationship between and directionality of relationships between the variables. Last but not least, a multiple regression analysis was conducted to test hypotheses of the study and to estimate the single or integrated predictive validity of sleep duration, work stress and work life balance on job performance.

4.1 Demographic Profile of Respondents

This section summarizes the demographic characteristics of the respondents to provide an overview of the sample composition. A total of 308 valid responses were included in the analysis. The sample comprised 60.7% male and 39.3% female respondents, indicating adequate gender representation.

In terms of age, the majority of respondents were between 25–30 years (43.5%), followed by those aged 31–35 years (31.2%), while smaller proportions fell within the 36–40 years (15.6%) and above 40 years (9.7%) categories.

Regarding job category, 59.1% of respondents were teaching staff, whereas 40.9% were administrative staff. In terms of work experience, 46.1% had 1–5 years, 33.4% had 6–10 years, and 20.5% had more than 10 years of experience. Overall, the demographic distribution reflects a diverse and balanced sample suitable for reliable statistical analysis (Nadeem et al., 2024). The demographic results indicate a diverse representation across age groups, experience levels, and job categories, ensuring adequacy for statistical analysis.

Table 1. Demographic Profile of Respondents (N = 308)

Variable	Category	Frequency	Percentage (%)
Gender	Male	187	60.7
	Female	121	39.3
Age Group	25–30 years	134	43.5
	31–35 years	96	31.2
	36–40 years	48	15.6
	Above 40 years	30	9.7
Job Category	Teaching Staff	182	59.1
	Administrative Staff	126	40.9
Work Experience	1–5 years	142	46.1
	6–10 years	103	33.4
	More than 10 years	63	20.5

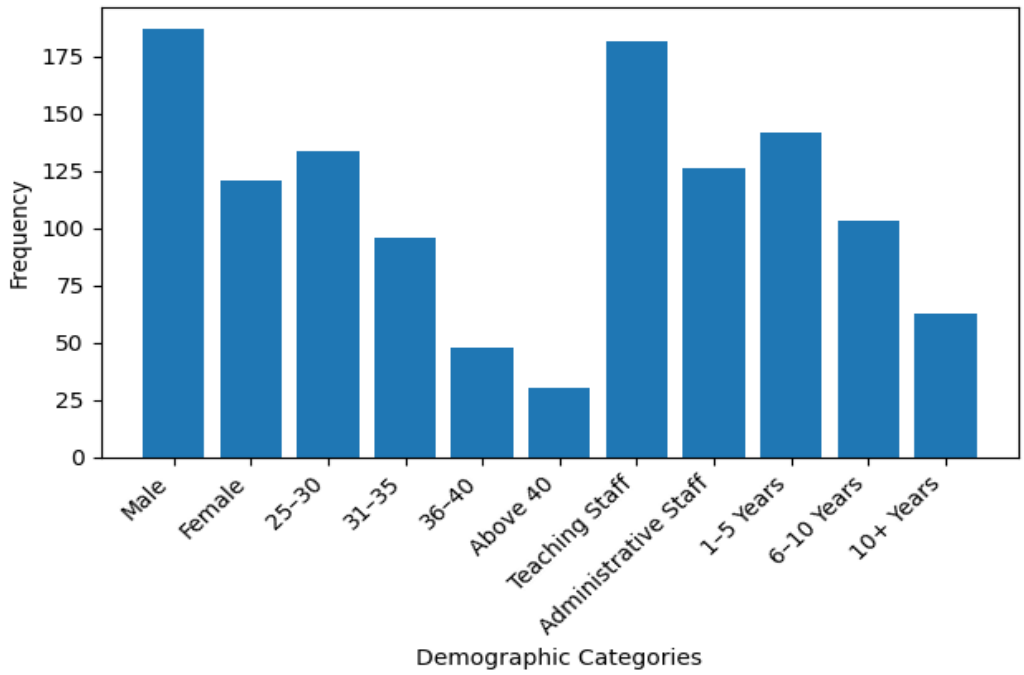

Figure 2. Demographic Profile of Respondents

4.2 Descriptive Statistics

Descriptive statistics was calculated to generalize the main trends and measures of dispersion of the key variables examined in the researched study, which include the following: sleep duration, work stress, work-life balance, and job performance. Descriptive means were utilized to reflect the average scale of all the constructs, and standard deviations were utilized to reflect the variance of the perceptions of the respondents (Irfan et al., 2023). The results show that the participants have moderate results of sleep adequacy and work life balance, compared to relatively higher perceptions of work stress.

Moreover, the scores of job performance were also in general favourable position with the participants. The estimation of standard deviations of all variables indicated that there was a satisfactory amount of distribution of responses and thus an acceptable variability to conduct some inferential tests. Overall, the descriptive statistics provides a brief numerical representation of the data and supports its suitability to the subsequent measures of reliability, correlation analyses, and regression analysis procedures, which are conducted in this study.

Table 2. Study Variables

Variable	Mean	Standard Deviation
Sleep Duration	3.41	0.78
Work Stress	3.67	0.72
Work–Life Balance	3.29	0.81
Job Performance	3.74	0.69

The mean values indicate moderate to high levels of perceived stress and job performance among respondents.

4.3 Reliability Analysis

Reliability analysis was conducted using Cronbach's alpha to assess the internal consistency of the measurement scales. All constructs demonstrated Cronbach's alpha values above the acceptable threshold of 0.70, indicating strong reliability and confirming that the measurement items consistently

captured their respective constructs.

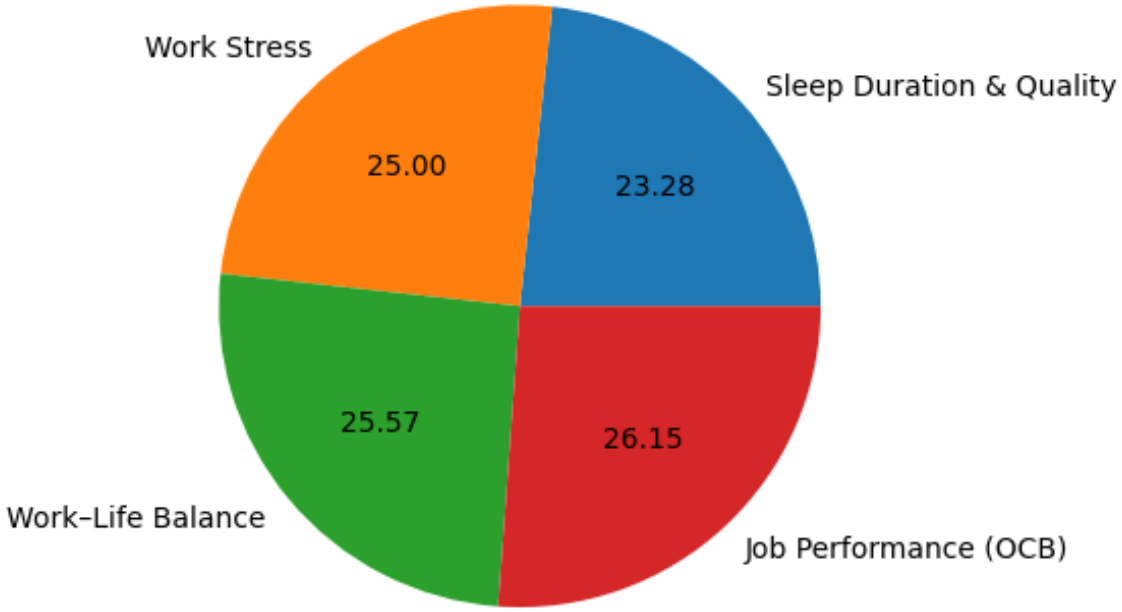

Figure 3. Reliability Analysis of Measurement Scales (Cronbach's Alpha)

Table 3. Reliability Statistics

Construct	Number of Items	Cronbach's Alpha
Sleep Duration & Quality	5	0.81
Work Stress	8	0.87
Work–Life Balance	15	0.89
Job Performance (OCB)	24	0.91

All constructs exceeded the acceptable threshold of **0.70**, indicating strong reliability.

4.4 Correlation Analysis

The Pearson correlation analysis was used to determine how strong and in which direction the relationship between sleep duration, work stress, work life balance and job performance were. The findings show that the variables of the study have statistically significant relationships.

The duration of sleep and the work-life balance are positively correlated with job performance, but work stress has a negative relation with job performance. In addition, the length of sleep has had negative correlation with work stress and positive correlation with work-life balance (Cohen et al., 1983). These correlations support significant interrelationship between the variables and provide a basis on which a further regression analysis can be done.

Table 4. Correlation Matrix

Variable	Sleep	Stress	WLB	Job Performance
Sleep Duration	1	-0.42**	0.48**	0.51**
Work Stress		1	-0.55**	-0.49**
Work–Life Balance			1	0.57**
Job Performance				1

Note: p < 0.01

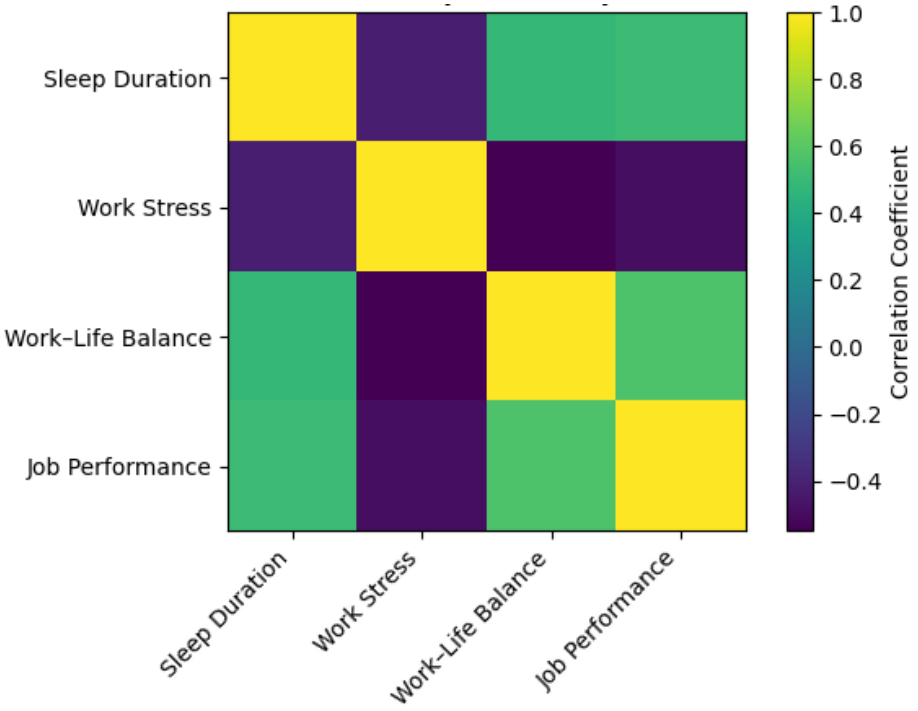

Figure 4. Correlation Matrix of Sleep Duration, Work Stress, Work–Life Balance, and Job Performance

4.5 Regression Analysis

Regression analysis was conducted to examine the predictive effects of sleep duration, work stress, and work–life balance on job performance. Both individual and combined regression models were tested to determine the significance, direction, and strength of each predictor and their overall contribution to explaining variations in job performance.

4.5.1 Individual Predictors

Separate regression analyses were conducted to test individual effects.

Table 5. Regression Results – Individual Predictors

Predictor	β	t-value	Sig.
Sleep Duration → Job Performance	0.38	7.92	0.000
Work Stress → Job Performance	-0.41	-8.34	0.000
Work–Life Balance → Job Performance			

4.5.2 Combined Regression Model (H4)

Table 6. Multiple Regression Results

Predictor	β	t-value	Sig.
Sleep Duration	0.26	5.11	0.000
Work Stress	-0.29	-6.02	0.000
Work–Life Balance	0.33	6.84	0.000

Model Statistics	Value
R	0.71
R^2	0.50
Adjusted R^2	0.49
F-value	101.6
Sig.	0.000

4.6 Hypothesis Testing Results

The proposed hypotheses were tested using regression analysis about their effects on job performance. Empirical evidence proves that all the four suspicions are id confirmed. The sleep length and work-life balance had statistically significant positive impacts on job performance and the work stress had statistically significant negative impacts. The overall model explained a substantial amount of variance about job performance.

Hypothesis	Statement	Result
H1	Sleep duration positively affects job performance	Accepted
H2	Work stress negatively affects job performance	Accepted
H3	Work–life balance positively affects job performance	Accepted
H4	Combined predictors significantly explain job performance	Accepted

5.1 Conclusion

The study provides a significant contribution to the academic knowledge of job performance as it brings together the sleep duration, work-related stress, and work-life balance into the same analytical framework. The results show that the performance of jobs cannot be sufficiently described through the abilities of individuals, their motivation, or organisational structure, but instead it is highly dependent on the physical, psychological, and personal wellbeing of workers. The study expands the scope of Attribution Theory application to occupational wellbeing in learning institutions because it empirically validates the proposed conceptual framework. These findings also indicate that the employees attribute their performance not just to individual effort, but also to external factors including sufficient sleep, level of stress and the balance between work and personal life.

The research offers context-specific findings of the Pakistani education sector, which is a field that has not had significant research done regarding existing literature. The research offers an in-depth insight into the performance dynamics in a sector that is highly cognitively demanding, emotionally labour-intensive, and institutionally pressurised by concentrating on teaching and administrative staff. Overall, the research highlights the importance of taking an integrated approach to the management of performance that is not only focused on the wellbeing of employees but also organised goals.

5.2 Recommendations

Based on the empirical findings, several practical recommendations are proposed to enhance employee job performance and wellbeing in educational institutions.

5.2.1 Recommendations for Organizational Policies

This should be accompanied by a critical review and tightening of organizational policies by educational institutions in order to establish employee wellbeing as a top-level strategic priority. The policies that will be used in the allocation of workload, benchmarks, and working hours must be carefully designed to prevent high levels of stress and even prevent chronic fatigue. In addition, organizations must

incorporate the aspects of wellbeing into human resource planning and performance evaluation framework to ensure that human health is not negatively affected in the fierce quest toward productivity. By integrating wellbeing concerns in institutional policy-making processes, organizations are able to promote environments that can support the long-term performance as opposed to focusing on immediate output.

5.2.2 Recommendations for Employee Wellbeing Programs

The findings highlight the need to have employee well-being programs organized in a systematic manner in institutions of learning. The interventions which promote healthy sleeping habits, stress management and a balanced work-life interface should be implemented in institutions. Sleep hygiene, time management and adaptive coping strategies education workshops can be identified to increase the ability of the employees to satisfy the demands of work. Facilitation of counselling services, mental-health support systems and organization of stress-management workshops can significantly alleviate the negative impacts of work stress.

5.2.3 Recommendations for Work Scheduling Reforms

The reform in work scheduling is necessary to solve the problem of sleep deprivation and work-life imbalance. In the case of teaching staff, it should also be in the form of balanced teaching loads and sufficient preparation time. In the case of administrative employees, task rotation and achievable deadlines would be useful in reducing boredom and pressures. Such reforms would be able to improve recovery, decrease burnout, and provide stability in performance in the long term.

5.4 Limitations of the Study

Despite the valuable insights of the current research, there are various limitations that deserve to be mentioned. First, the use of cross-sectional design does not allow inferring the causal relationships between the analyzed variables. To that end, the recognized associations are restricted to a single point in time and do not capture the time variation in sleep patterns, stress levels, or work-life balance. Second, the use of self report data creates the possibility of bias such as response bias, social desirability bias and common-method variance. Although validated measuring tools were used to enhance reliability and validity, the perception of the respondents might not be in a position to capture the objective conditions exhaustively. Third, the fact that the study is limited specifically to educational institutions reduces the extrapolation of the results. In addition, omission of part-time workers and workers working in the night shift might also limit the generalizability of the findings to the general employee group. The interpretation of the study result should thus be put into consideration with these limitations.

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