

Prevalence and determinants of job stress among bank employees in Bangladesh

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Abstract

Background: Job stress is a significant occupational health concern, particularly in high-pressure sectors like banking. This study examines the prevalence and determinants of moderate-to-high perceived job stress among bank employees in Bangladesh.

Methods: A cross-sectional study involving 417 employees from various banking institutions was conducted. A multiple binary logistic regression analysis was performed to identify factors associated with moderate-to-high perceived stress.

Results: Most participants were male (64.7%), with nearly 37.6% falling in the 35–45 age group. Around 73.4% of the participants reported moderate-to-high levels of job stress. The findings reveal that private bank employees were significantly more likely to experience moderate-to-high stress compared to government bank employees. Employees who engaged in physical activity four or more times per week were 80% less likely to experience moderate-to-high stress compared to those who exercised three times or less per week. Additionally, employees with depressive symptoms and anxiety symptoms had significantly higher odds of experiencing moderate-to-high stress.

Conclusion: Private sector employment, lack of physical activity, and mental health conditions such as depression and anxiety are key determinants of job stress among bank employees in Bangladesh. These findings highlight the need for targeted workplace interventions to improve employee well-being in the banking sector.

Keywords: Job Stress; Bank Employees; Mental Health; Physical Activity; Bangladesh

1 Introduction

The banking sector plays a pivotal role in the economic development of nations, and Bangladesh is no exception [1]. Over the past few decades, the country has witnessed significant transformations in its banking landscape, transitioning from a state-dominated system to a more diverse and competitive environment comprising government, private, and foreign banks [2]. Despite these advancements, the pressures of the banking profession have escalated, with employees facing increasingly demanding work conditions [3-11]. Bank employees, who serve as the backbone of financial institutions, often operate under intense workloads, stringent deadlines, and high customer expectations, all of which contribute to increased levels of job stress [3-11].

Job stress among employees in high-pressure sectors like banking is a global concern, with well-documented associations to physical and mental health issues, such as burnout, anxiety, and depression [3-13]. However, the unique socio-cultural and economic context in Bangladesh necessitates a localized investigation into the prevalence and determinants of job stress. Cultural norms, economic pressures, and the rapid technological transformation in the financial sector may shape the experience of job stress in ways that differ from those observed in other countries [6-7,14].

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Although several studies have identified various factors contributing to job stress in banking—such as workload, job insecurity, and organizational climate—limited attention has been given to understanding these issues within the Bangladeshi context [3-11]. The fast-paced technological advances and the competitive banking environment have placed bank employees under new forms of pressure, leading to significant implications for both their health and job performance [6].

This study aims to address this gap by examining the prevalence of job stress among bank employees in Bangladesh and identifying the key determinants that contribute to its occurrence. Understanding these dynamics is crucial for developing targeted interventions that can reduce stress, improve employee well-being, and enhance organizational productivity in the evolving banking sector of Bangladesh.

2 Methods

2.1 Data Sources and Study Design

This cross-sectional study was carried out among bank employees in Bangladesh. As of 2024, the banking sector in Bangladesh comprised 62 commercial banks, categorized into six state-owned, 43 private commercial, nine foreign, three specialized banks, and one digital commercial bank [2]. According to Bangladesh Bank (2024), there are more than 8,750 branches across these banks [2]. The administrative framework of Bangladesh is divided into eight divisions, including Barishal, Chattogram, Dhaka, Khulna, Rajshahi, Rangpur, Mymensingh, and Sylhet. For my research, bank employees were purposively selected from state-owned and private commercial banks located in the Khulna division, chosen for convenience. The Khulna division includes 10 districts; however, for operational feasibility, data collection was focused on bank branches within four districts: Khulna, Jhenaidah, Kushtia, and Meherpur.

2.2 Sample Size Determination

The sample size was calculated using Cochran's formula, assuming a 5% margin of error, a 95% confidence level, and a response distribution of 50% [15].

$$n_0 = \frac{Z^2 pq}{e^2} = \frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2} = 385$$

Therefore, the minimum sample size required was 385 participants. However, to account for potential non-responses or incomplete questionnaires, an additional 15% was added:

$$n_a = 385 + (385 \times 0.15) = 443.$$

Thus, the target sample size was at least 443 participants.

2.3 Data Collection Procedures and Sampling

A comprehensive list of 298 bank branches was compiled from the websites of banks operating within the districts of Khulna, Jhenaidah, Kushtia, and Meherpur. Using a simple random sampling method (lottery method), 60 branches were selected until the target sample size was anticipated to be met. The selected branches included 33 from five state-owned banks and 27 from 21 private banks. The number of employees at each branch was verified through communication with the respective Branch Manager or Operational Manager. Employees from the selected branches were recruited using cluster sampling. Data collection occurred from April 28, 2024, to July 15, 2024. Face-to-face interviews were conducted using a pretested structured questionnaire by the researcher and trained enumerators. The survey was administered under conditions of anonymity, with all respondents providing informed consent prior to participation. They were also informed of their right to withdraw from the study at any time without needing to provide a reason.

Of the 446 bank employees approached, 423 agreed to participate, leading to a high response rate (95%). After addressing issues with missing values, data from 417 participants were included in the final analysis. The final participant pool was almost evenly split between the two main types of banks: 207 participants (49.6%) from state-owned banks and 210 participants (50.4%) from private commercial banks.

2.4 Outcome variable

The outcome variable for this study was perceived job stress. Job stress was assessed using the 10-item Perceived Stress Scale (PSS-10), a widely used psychological instrument designed to measure the perception of stress [16-17].

Participants rated the frequency of stress-related feelings and thoughts they experienced in the past month on a scale ranging from 0 (never) to 4 (very often). The total score is categorized into three levels: normal (<14), moderate (14–26), or high perceived stress (27–40) [16-17]. For this study, perceived stress was dichotomized as "Normal-low" for scores <14 and "Moderate-high" for scores ≥14. The PSS-10 has been validated in diverse populations, demonstrating robust psychometric properties, including high reliability and validity, making it suitable for various cultural contexts [16-17].

2.5 Independent Variables

The independent variables in this study included age group (<35 years, 35–45 years, >45 years), gender (male, female), and body mass index (BMI), categorized as underweight/normal weight ($BMI \leq 25 \text{ kg/m}^2$) and overweight/obese ($BMI > 25 \text{ kg/m}^2$) [18]. Marital status was classified as married or never married/widowed/divorced/separated, while number of family member was grouped as ≤3 or ≥4 members. Other variables included the type of bank (government or private), number of chronic diseases (0, 1, or ≥2), current smoking status (yes, no), and frequency of physical activity (≤3 times/week, >4 times/week). The presence of depressive and anxiety symptoms was also considered (no, yes).

The number of chronic diseases was determined based on self-reported diagnoses of hypertension, heart disease, diabetes, asthma, arthritis, bronchitis, low iron levels, and osteoporosis. Physical activity was defined as any form of movement, such as walking, running, sports, gym workouts, or other activities lasting at least 10 minutes. Depressive symptoms were measured using the 10-item Center for Epidemiologic Studies Depression Scale (CES-D-10), which evaluates the frequency of depressive symptoms experienced over the past week [19]. Participants rated each item on a scale from 0 (rarely or none of the time) to 3 (most or all of the time), resulting in a total score ranging from 0 to 30. A cutoff score of >10 was used to indicate the presence of depressive symptom [20-22]. The CES-D-10 has demonstrated high reliability and validity in various age groups and settings, making it a reliable tool for assessing depressive symptoms in this population [21-22].

Anxiety levels were evaluated using the 7-item Generalized Anxiety Disorder (GAD-7) scale, a validated instrument designed to measure the severity of generalized anxiety symptoms [23-24]. Participants rated the frequency of anxiety symptoms experienced in the past two weeks on a scale from 0 (not at all) to 3 (nearly every day). Total scores ranged from 0 to 21 and were categorized into four severity levels: minimal (0–4), mild (5–9), moderate (10–14), and severe (15–21) [23-24]. For this study, anxiety symptoms were dichotomized as "No" for scores ≤4 and "Yes" for scores ≥5. The GAD-7 is recognized for its high sensitivity and specificity and has been widely validated in different populations, ensuring its suitability for this research [23-25].

2.6 Statistical Analysis

Descriptive statistics were used to calculate the frequency and percentage of selected variables. Pearson's Chi-squared test was performed to examine the association between perceived job stress and independent variables. Multiple binary logistic regression analyses were conducted to identify significant predictors of job stress. Variables with an odds ratio (OR) of less than 0.20 in the unadjusted analysis were included in the final model. The final model reports adjusted odds ratios (AOR) with 95% confidence intervals. Multicollinearity among predictors was assessed using the Variance Inflation Factor (VIF). The relationship between perceived health status, job stress, depressive symptoms, anxiety symptoms were assessed using correlation coefficients. A p-value of <0.05 was considered statistically significant. All analyses were performed using IBM SPSS Statistics, version 26.

3 Results

A total of 417 participants were included in the final analysis. Overall, 73.4% of the participants reported moderate-to-high levels of job stress, while 39.1% experienced depressive symptoms and 45.3% showed symptoms of anxiety. **Table 1** summarizes the basic characteristics of the study sample. Most participants were male (64.7%), with nearly 37.6% falling in the 35–45 age group, and a large majority (88.5%) were married. About 63% of participants were in the underweight/normal BMI range. The workforce was almost equally divided between government and private banks, and around 40% of the participants reported no chronic diseases. Furthermore, the majority (85.4%) engaged in physical activity three times a week or less.

Table 1 Frequency distribution and percentage of the background characteristics

Variables	Categories	n	%
Age group (in years)	<35	128	30.7
	35-45	157	37.6
	>45	132	31.7
Gender	Male	270	64.7
	Female	147	35.3
BMI	Underweight/Normal	262	62.8
	Overweight/Obese	155	37.2
Marital Status	Married	369	88.5
	Never Married/Widowed/Divorced/Separated	48	11.5
Number of family members	≤ 3	142	34.1
	≥ 4	275	65.9
Type of bank	Government	207	49.6
	Private	210	50.4
Number of Chronic Diseases	0	168	40.3
	1	123	29.5
	≥ 2	126	30.2
Currently smoking status	No	367	87.9
	Yes	50	12.1
Physical activity	≤ 3 times/week	356	85.4
	>4 times/week	61	14.6
Perceived stress	Normal-low	111	26.6
	Moderate-high	306	73.4
Depressive symptom	No	254	60.9
	Yes	163	39.1
Anxiety symptom	No	228	54.7
	Yes	189	45.3

Table 2 presents the prevalence of job stress among participants according to selected characteristics. The findings reveal significant variations in stress levels across several demographic and health-related factors. Notably, female participants reported a higher prevalence of moderate-to-high stress (84.4%) compared to male participants (67.4%) ($p < 0.001$). Similarly, employees working in private banks experienced considerably greater stress (85.7%) than those in government banks (60.9%) ($p < 0.001$). Smoking was also associated with higher stress levels, with 86.0% of smokers reporting moderate-to-high stress compared to 71.6% of non-smokers ($p = 0.031$). Moreover, individuals with two or more chronic diseases exhibited a higher prevalence of moderate-to-high stress (82.5%) compared to those with no chronic conditions (68.5%) or only one chronic condition (70.7%) ($p = 0.009$). In contrast, engaging in regular physical activity (more than four times per week) was linked to lower stress levels, with only 36.1% of physically active individuals experiencing moderate-to-high stress compared to 79.8% among those exercising three times per week or less ($p < 0.001$). Additionally, employees with anxiety symptoms were significantly more likely to experience moderate-to-high stress (89.9%) compared to those without such symptoms (59.6%) ($p < 0.001$). Similarly, employees with depressive symptoms were more likely to experience moderate-to-high stress (92.0%) compared to those without such

symptoms (61.4%) ($p < 0.001$). However, age, BMI, marital status, and family size did not show significant associations with job stress.

Table 2 Prevalence of job stress among participants by selected characteristics

Variables	Categories	Perceived stress		p-value ^a
		Normal-low n (%)	Moderate-high n (%)	
Age group (in years)	<35	32 (25.0)	96 (75.0)	0.847
	35-45	44 (28.0)	113 (72.0)	
	>45	35 (26.5)	97 (73.5)	
Gender	Male	88 (32.6)	182 (67.4)	<0.001
	Female	23 (15.6)	124 (84.4)	
BMI	Underweight/Normal	72 (27.5)	190 (72.5)	0.604
	Overweight/Obese	39 (25.2)	116 (74.8)	
Marital Status	Married	103 (27.9)	266 (72.1)	0.097
	Never Married/Widowed /Divorced/Separated	08 (16.7)	40 (83.3)	
Number of family members	≤ 3	36 (25.4)	106 (74.6)	0.674
	≥ 4	75 (27.3)	200 (72.7)	
Type of bank	Government	81 (39.1)	126 (60.9)	<0.001
	Private	30 (14.3)	180 (85.7)	
Number of Chronic Diseases	0	53 (31.5)	115 (68.5)	0.019
	1	36 (29.3)	87 (70.7)	
	≥ 2	22 (17.5)	104 (82.5)	
Current smoking status	No	103 (28.4)	260 (71.6)	0.031
	Yes	07 (14.0)	43 (86.0)	
Physical activity	≤ 3 times/week	72 (20.2)	284 (79.8)	<0.001
	>4 times/week	39 (63.9)	22 (36.1)	
Depressive symptom	No	98 (38.6)	156 (61.4)	<0.001
	Yes	13 (8.0)	150 (92.0)	
Anxiety symptom	No	92 (40.4)	136 (59.6)	<0.001
	Yes	19 (10.1)	170 (89.9)	

^ap-value observed from Chi-squared test.

Table 3 presents the results of the multiple binary logistic regression analysis assessing the determinants of moderate-to-high perceived stress among bank employees in Bangladesh. The adjusted analysis showed that private bank employees were significantly more likely to experience moderate-to-high stress than government bank employees (AOR: 2.20, 95% CI: 1.29–3.77, $p=0.004$). Additionally, employees who engaged in physical activity four or more times per week were 80% less likely to experience moderate-to-high stress compared to those who exercised three times or less per week (AOR: 0.20, 95% CI: 0.11–0.39, $p<0.001$). Furthermore, employees with depressive symptoms were nearly three times more likely to experience moderate-to-high stress than those without depressive symptoms (AOR: 2.86, 95% CI: 1.53–5.34, $p=0.001$). Similarly, employees with anxiety symptoms had more than three times higher odds of experiencing moderate-to-high stress than those without anxiety symptoms (AOR: 3.18, 95% CI: 1.58–6.41, $p=0.007$).

Table 3 Multiple binary logistic regression analysis of perceived moderate-high stress

Variables	Categories	COR (95% CI)	P	AOR (95% CI)	p
Age group (in years)	<35 (ref.)				
	35-45	0.85 (0.50-1.45)	0.566		
	>45	0.92 (0.53-1.61)	0.780		
Gender	Male (Ref.)				
	Female	2.61 (1.56-4.35)	<0.001	1.41 (0.75-2.55)	0.261
BMI	Underweight/ Normal (Ref.)				
	Overweight/Obese	1.13 (0.72-1.77)	0.605		
Marital Status	Married (Ref.)				
	Never Married/ Widowed /Divorced/ Separated	1.10 (0.69-1.75)	0.674	1.64 (0.69-3.93)	0.265
Number of family members	≤ 3 (Ref.)				
	≥4	0.89 (0.56-1.41)	0.618		
Type of bank	Government (Ref.)				
	Private	3.86 (2.39-6.21)	<0.001	2.20 (1.29-3.77)	0.004
Number of Chronic Diseases	0 (Ref.)				
	1	1.11 (0.67-1.85)	0.677	0.77 (0.42-1.39)	0.381
	≥ 2	2.18 (1.24-3.38)	0.007	1.06 (0.54-2.06)	0.871
Currently smoking status	No (Ref.)				
	Yes	2.43 (1.06-5.58)	0.036	1.54 (0.55-4.31)	0.413
Physical activity	≤ 3 times/week (Ref.)				
	>4 times/week	0.14 (0.08-0.26)	<0.001	0.20 (0.11-0.39)	<0.001
Depressive symptom	No (Ref.)				
	Yes	1.98 (3.99-13.48)	<0.001	2.86 (1.53-5.34)	0.001
Anxiety symptom	No (Ref.)				
	Yes	6.05 (3.52-10.42)	<0.001	3.18 (1.58-6.41)	0.007

The analysis reference category: Normal-low perceived stress.

Ref: Reference, CI: Confidence interval, COR: Crude Odds Ratios, AOR: Adjusted Odds Ratios.

A multicollinearity assessment was conducted using the Variance Inflation Factor (VIF) to examine potential collinearity among independent variables influencing perceived stress among bank employees in Bangladesh (**Table 4**). The results indicate that all VIF values are below the commonly accepted threshold of 10, suggesting no severe multicollinearity issues in the regression model.

Table 4 Multicollinearity evaluation using VIF for the impacts of perceived stress

Variables	Categories	VIF	1/VIF
Age group (in years)	<35 (Ref.)		

	35-45	1.73	0.579295
	>45	1.84	0.542849
Gender	Male (Ref.)		
	Female	1.32	0.757423
BMI	Underweight/ Normal (Ref.)		
	Overweight/Obese	1.03	0.970410
Marital Status	Married (Ref.)		
	Never Married/ Widowed /Divorced/ Separated	1.18	0.844837
Number of family members	≤ 3 (Ref.)		
	≥4	1.08	0.926379
Type of bank	Government (Ref.)		
	Private	1.20	0.831212
Number of Chronic Diseases	0 (Ref.)		
	1	1.37	0.730161
	≥ 2	1.63	0.614853
Currently smoking status	No (Ref.)		
	Yes	1.25	0.798553
Physical activity	≤ 3 times/week (Ref.)		
	>4 times/week	1.09	0.921114
Depressive symptom	No (Ref.)		
	Yes	1.38	0.723814
Anxiety symptom	No (Ref.)		
	Yes	1.40	0.714631

Ref: Reference, VIF: Variance Inflation Factor

4 Discussion

This study provides a comprehensive analysis of the prevalence and determinants of job stress among bank employees in Bangladesh. The findings indicate that private bank employees, employees with depressive and anxiety symptoms, and those engaging in less frequent physical activity are at a significantly higher risk of experiencing moderate-to-high stress.

The finding that almost three-fourths (73.4%) of participants reported moderate-to-high levels of job stress is particularly concerning. This high prevalence highlights the significant burden of stress among bank employees in Bangladesh, potentially driven by demanding work conditions, job insecurity, and imbalanced work-life dynamics. These results align with previous research indicating that bank employees experience high levels of stress [3-11]. However, given this finding, there is a clear need for targeted interventions and organizational policy reforms to address workplace stress.

The results show that private bank employees were significantly more likely to experience job stress than their counterparts in government banks. This finding aligns with previous research suggesting that private sector employees often face higher performance pressures, longer working hours, and greater job insecurity, contributing to increased

stress levels [26-29]. Unlike government banks, which offer more stability and structured work environments, private banks impose demanding targets and strict performance evaluations, likely exacerbating stress among employees [26-29].

Engaging in regular physical activity was found to be a protective factor against job stress. Employees who exercised four or more times per week had significantly lower odds of experiencing moderate-to-high stress compared to those who exercised less frequently. This finding is consistent with previous studies indicating that physical activity helps mitigate stress by reducing cortisol levels and promoting mental well-being [30-32]. The lower stress levels among physically active employees highlight the importance of workplace wellness initiatives that encourage regular exercise.

Furthermore, depressive and anxiety symptoms were strongly associated with moderate-to-high job stress, with affected employees exhibiting nearly three times higher odds of experiencing moderate-to-high stress. This result corroborates existing literature linking mental health conditions to workplace stress [4-6,34-36]. Employees with depressive or anxiety symptoms may struggle with coping mechanisms, workplace interactions, and workload management, making them more vulnerable to heightened stress levels [4-6,34-36]. The significant association between stress and mental health suggests the necessity for banks to implement mental health support programs and early intervention strategies.

The findings underscore the need for targeted interventions to mitigate job stress among bank employees. Private banks should consider adopting stress management strategies such as workload redistribution, flexible work arrangements, and enhanced job security measures. Additionally, promoting regular physical activity through workplace wellness programs may help employees manage stress more effectively. Finally, integrating mental health support services, including counseling and stress reduction workshops, can provide crucial assistance to employees experiencing depressive or anxiety symptoms.

A key strength of this study is its rigorous analytical approach, which provides valuable insights into the specific risk factors associated with job stress. However, several limitations must be acknowledged. Firstly, the study was conducted in a single division in Bangladesh, which may not be representative of all bank employees across the country. Secondly, the cross-sectional design hinders causal inferences, and reliance on self-reported measures may introduce response bias. Future research should employ longitudinal designs with nationally representative samples to explore stress dynamics over time and to evaluate the effectiveness of targeted intervention strategies. Additionally, future studies should consider incorporating additional variables—such as organisational support, work-life balance, and specific job roles—to more comprehensively capture the multifaceted nature of job stress.

5 Conclusion

This study reveals that moderate-to-high levels of job stress are alarmingly prevalent among bank employees in Bangladesh. The findings underscore the significant influence of workplace type, physical activity, and mental health conditions on stress levels. Addressing these factors through targeted interventions is crucial for improving employee well-being and enhancing organizational productivity.

Compliance with ethical standards

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Disclosure of conflict of interest

There is no conflict of interest.

Ethical Considerations

The study adhered to ethical guidelines, ensuring that participants provided informed consent before participating, with their anonymity and confidentiality safeguarded through data anonymization and secure storage of responses.

Participation was voluntary, and anyone could leave at any time without negative consequences. Furthermore, no monetary compensation was offered to reduce the potential bias towards the answers. This study approved by the department of management, Islamic University, Kushtia, Bangladesh.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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