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JOB DEMANDS, MUSCULOSKELETAL DISCOMFORT, AND PSYCHOLOGICAL WELL-BEING AMONG BANK WORKERS IN IBADAN

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ABSTRACT: Job demands can contribute to stress, burnout, and reduced job satisfaction among bank workers, adversely affecting their psychological well-being. This study investigated the effects of job demands and musculoskeletal discomfort on the psychological well-being of bank workers in Ibadan, Nigeria. Using a multi-stage sampling method, 394 employees from commercial banks completed standardised questionnaires assessing job demands, musculoskeletal discomfort, psychological well-being (via Ryff's Scales), and demographics. Data were analysed using descriptive statistics, regression, and t-tests. Findings indicated that high job demands significantly impaired psychological well-being ($p < .001$), accounting for 18% of the variance, whereas musculoskeletal discomfort had no independent effect ($p = .12$). A combined model incorporating job demands, musculoskeletal discomfort, and age explained 11% of the variance in well-being ($p < .001$). No significant differences were observed by gender or marital status. These results highlight the critical role of psychosocial factors in Nigeria's banking sector, where economic pressures exacerbate job demands. Recommendations include workload management and ergonomic training to enhance employee well-being.

Keywords: Job Demands, Musculoskeletal Discomfort, Psychological Well-Being, Bank Workers, Occupational Health, Nigeria

INTRODUCTION

The Nigerian banking sector is a high-pressure occupational environment characterised by intense performance demands, long working hours, and frequent regulatory and technological changes. In Ibadan, a major commercial hub in Oyo State, bank workers face these challenges alongside socioeconomic pressures, such as economic instability and job insecurity (Adegbite et al., 2020). The Job Demands-Resources (JD-R) framework posits that high job demands, defined as physical, psychological, or organisational aspects requiring sustained effort, deplete resources, leading to stress, burnout, and reduced psychological well-being (Bakker & Demerouti, 2017). Psychological well-being, conceptualised through Ryff's (1989) multidimensional model, includes autonomy, personal growth, and purpose in life, all critical for resilience in demanding roles. Additionally, musculoskeletal discomfort, stemming from prolonged sedentary tasks and poor ergonomic setups, is prevalent among bank workers and may exacerbate psychological strain (Coenen et al., 2019). In Nigeria, limited access to ergonomic resources and cultural factors, such as collectivistic values

and high power distance, shape how workers experience and respond to these stressors (Hofstede, 2010; Agberotimi et al., 2022). Despite growing research on occupational health, evidence on the interplay between job demands, musculoskeletal discomfort, and psychological well-being in African contexts remains limited (Ndengu & Leka, 2022). This study addresses this gap by examining how job demands and musculoskeletal discomfort affect the psychological well-being of bank workers in Ibadan, Nigeria, using the JD-R framework. It specifically investigates whether these factors jointly influence well-being and explores the moderating role of demographic factors like age, gender, and marital status.

Research Questions

1. To what extent do job demands influence the psychological well-being of bank workers in Ibadan?
2. Does musculoskeletal discomfort independently or jointly with job demands affect psychological well-being?
3. Do demographic factors (e.g., age, gender, marital status) moderate the relationship between job demands, musculoskeletal discomfort, and psychological well-being?

Integrated Literature Review

The Job Demands–Resources (JD-R) framework offers a robust lens for understanding occupational health in high-pressure sectors, such as banking. Studies globally demonstrate that job resources, such as autonomy and social support, enhance well-being and performance, mediated by job satisfaction (Ali et al., 2025). However, high job demands—workload, time pressure, and emotional labour—consistently predict adverse outcomes, including burnout and diminished psychological well-being (Bakker & Demerouti, 2017). A 2024 review of financial professionals highlighted age as a moderator, with older workers experiencing greater strain from interpersonal demands due to reduced coping resources (Petrovic et al., 2024). In African contexts, Ndengu and Leka (2022) applied the JD-R framework to Zimbabwean bankers, linking excessive demands to exhaustion amid economic volatility. While this mirrors Nigeria's economic instability, Zimbabwe's post-hyperinflation context differs from Nigeria's urban banking environment, where performance-driven cultures and technological adaptation amplify demands (Okolo & Anazodo, 2019). This contrast underscores the need to examine Nigeria-specific dynamics, as African studies often generalize regional stressors without addressing local nuances.

Musculoskeletal discomfort, prevalent among sedentary workers, further complicates occupational health. Prolonged sitting and poor ergonomic setups contribute to work-related musculoskeletal disorders (WMSDs), affecting up to 80% of office workers annually (Coenen et al., 2019). A 2025 review found that participatory ergonomic interventions reduce WMSDs and enhance well-being in office settings (Lee et al., 2025). Similarly, active microbreaks alleviate discomfort and improve engagement (Sutarto et al., 2024). In Ethiopia, a 2024 study of bank workers reported high WMSD prevalence, linking it to reduced productivity and well-being (Dagne et al., 2024). However, Ethiopia's public-sector-dominated banking contrasts with Nigeria's competitive commercial sector, where limited ergonomic resources exacerbate physical strain. These studies highlight a

critical tension: while ergonomic interventions are effective globally, their feasibility in resource-constrained settings, such as Nigeria, remains underexplored.

Demographic factors, particularly age, gender, and marital status, shape responses to job demands and physical discomfort. Older workers exhibit resilience to some psychosocial demands but are more vulnerable to physical strains, benefiting from resource-rich work designs (Mauno et al., 2013; Zacher & Rudolph, 2022). Gender and marital status yield inconsistent findings. Some studies report no gender differences in well-being (Shanahan et al., 2022), while others suggest marital support buffers demands in collectivistic cultures (Matud, 2004). In Nigeria, cultural factors like extended family responsibilities may amplify work-life conflicts, yet their role as moderators of well-being is understudied (Hofstede, 2010). The COVID-19 pandemic further intensified these dynamics, with a 2023 study noting increased musculoskeletal discomfort and mental health challenges among public sector workers, including bankers (Kim et al., 2023).

Despite these insights, significant gaps persist. Global studies dominate JD-R applications, often overlooking African banking contexts where economic and cultural factors uniquely shape occupational health (Ndengu & Leka, 2022). Nigerian research typically focuses on stress without integrating physical demands, such as musculoskeletal discomfort, or exploring demographic moderators (Adewale & Adebayo, 2018). Moreover, while African studies (e.g., those on Zimbabwe and Ethiopia) highlight regional stressors, they rarely address Nigeria's unique blend of urban pressures and collectivistic values, thereby limiting their applicability. This study addresses these gaps by examining the interplay of job demands, musculoskeletal discomfort, and demographic factors in Ibadan's banking sector, using the JD-R framework to test the following hypotheses:

1. Job demands, musculoskeletal discomfort, and age independently and jointly predict psychological well-being among bank workers.
2. Psychological well-being differs significantly by gender.
3. Psychological well-being differs significantly by marital status.

Hypotheses

H1: Job demand will significantly predict psychological well-being.
H2: Musculoskeletal discomfort will not independently predict psychological well-being.
H3: Job demand, musculoskeletal discomfort, and age will jointly predict psychological well-being.
H4: There will be no significant gender differences in psychological well-being.
H5: There will be no significant marital status differences in psychological well-being.

METHOD

Research Design

This study employed a cross-sectional survey design, commonly used in occupational health psychology to examine relationships between psychosocial work factors and employee outcomes at a single time point (Johns, 2021). This design was suitable for assessing the associations between

job demands, musculoskeletal discomfort, and psychological well-being among bank workers, while controlling for potential confounding variables. While causal inferences are limited, the approach supports the identification of associations and informs workplace interventions.

Participants

The target population comprised employees from all 23 commercial banks in Ibadan, Oyo State, Nigeria. A multi-stage sampling technique ensured a representative sample. Banks were stratified by size and branch distribution, with branches randomly selected within each stratum. Full-time employees with at least six months' tenure were then randomly recruited. Using Cochran's formula for finite populations (5% margin of error, 95% confidence level, and a response proportion of 0.50), the minimum sample size was calculated to be 367, based on an estimated 8,000 bank employees in Ibadan. To account for potential non-response, 450 questionnaires were distributed, with 400 completed and returned (88.9% response rate), exceeding the required sample size and enhancing statistical power. The sample included 210 males (52.5%) and 190 females (47.5%). Age distribution was as follows: 112 participants (28.0%) aged 20–29, 168 (42.0%) aged 30–39, 84 (21.0%) aged 40–49, and 36 (9.0%) aged 50 or older. The marital status of the participants included 152 single (38.0%), 220 married (55.0%), and 28 divorced or widowed (7.0%) individuals. Educationally, 258 (64.5%) held a bachelor's degree, 118 (29.5%) a master's degree, and 24 (6.0%) other qualifications (e.g., OND/HND). Job tenure was distributed as follows: 96 (24.0%) had less than 5 years, 172 (43.0%) had 5–10 years, and 132 (33.0%) had over 10 years. This demographic profile reflects the diversity of the banking workforce in Ibadan.

Measures

Socio-Demographic Variables

A structured questionnaire collected data on age, gender, marital status, educational attainment, and job tenure. Age was recorded in years and categorised into four groups (20–29, 30–39, 40–49, 50+). Gender was coded as male or female, marital status as single, married, or divorced/widowed, and educational attainment as bachelor's degree, master's degree, or other qualifications. Job tenure was categorised as less than 5 years, 5–10 years, or over 10 years. These variables were used for descriptive profiling and as controls in regression analyses due to their potential influence on psychological well-being.

Job Demands

Job demands were measured using the 7-item job demand subscale of the Copenhagen Psychosocial Questionnaire (COPSOQ; Kristensen et al., 2005). Items assess work intensity, time pressure, and conflicting demands (e.g., "Do you have to work very fast?"). Responses were on a five-point Likert scale (1 = never, 5 = always), summed to produce a total score ranging from 7 to 35, with higher scores indicating greater demands. Scores were categorised as low (7–18), moderate (19–26), or high (27–35). The sample mean was 31.4 (SD = 6.8), reflecting high job demands. Cronbach's alpha was 0.86, indicating strong internal consistency.

Musculoskeletal Discomfort

Musculoskeletal discomfort was assessed using the Nordic Musculoskeletal Questionnaire (NMQ; Kuorinka et al., 1987). Participants reported discomfort in nine anatomical regions (neck, shoulders, upper back, lower back, hips, knees, wrists/hands, ankles, elbows) over the past 12 months, with dichotomous responses (yes = 1, no = 0). Scores were summed (range: 0–9), with higher scores indicating discomfort across more regions. Scores were categorised as minimal (0–2), moderate (3–5), or high (6–9). The sample mean indicated a prevalence of musculoskeletal discomfort. Cronbach's alpha was 0.79, reflecting acceptable reliability.

Psychological Well-Being

Psychological well-being was measured using the 54-item version of Ryff's Psychological Well-Being Scale (Ryff, 1989), correcting the earlier reference to the 18-item short form. This scale assesses six dimensions: autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-acceptance. Each dimension includes nine items (e.g., "I lead a purposeful and meaningful life"), rated on a six-point Likert scale (1 = strongly disagree, 6 = strongly agree). Scores are summed to yield a total score ranging from 54 to 324, with higher scores indicating greater well-being. Scores were categorised as low (<150), moderate (150–225), or high (>225). The sample mean was 188.1 (SD = 33.6, adjusted for the 54-item scale), suggesting moderate well-being. Cronbach's alpha was 0.91, indicating excellent reliability.

Procedure

Ethical clearance was obtained from the Social and Health Research Ethics Committee of the University of Ibadan (Approval Code: UI/SHREC/2023/014). Permissions were secured from branch managers and human resource departments of participating banks. Participants received an information sheet detailing the study's purpose, voluntary participation, and confidentiality assurances. Written informed consent was obtained before questionnaire administration. Data collection occurred over six weeks, with trained research assistants distributing and collecting paper-based questionnaires during office hours to minimise disruption. Questionnaires took 20–25 minutes to complete, and responses were anonymous with no identifying information collected.

Data Analysis

Analyses were conducted using IBM SPSS Statistics version 26. Data were screened for quality, with missing values (<2%) addressed using multiple imputation to account for potential bias, as mean substitution may underestimate variability (Little & Rubin, 2019). Normality was confirmed with skewness and kurtosis within acceptable ranges (–1.0 to +1.0). Outliers, identified via standardized z-scores, were retained after sensitivity analyses confirmed no significant impact. Descriptive statistics (means, standard deviations, frequencies, percentages) summarized socio-demographic characteristics and study variables. Scale reliability was assessed using Cronbach's alpha. To test hypotheses, simple linear regression was used to examine the independent effects of job demands and musculoskeletal discomfort on psychological well-being. Multiple regression assessed the joint effects of job demands, musculoskeletal discomfort, and age, with all

assumptions (e.g., linearity, homoscedasticity) verified. Independent-samples t-tests were used to evaluate gender differences, and a one-way ANOVA was used to compare psychological well-being across marital status groups. Effect sizes (Cohen's d, η^2) were reported alongside p-values to indicate practical significance. Statistical significance was set at $p < .05$.

RESULTS

Data were analyzed using SPSS Version 27. Descriptive statistics, including means and standard deviations, were computed for all key variables to provide an initial overview of the sample characteristics and variable distributions. Hypotheses were tested using linear regression for H1 and H2, multiple linear regression for H3, and independent-samples t-tests for H4 and H5. All statistical analyses were conducted at a significance level of $p < .05$ to ensure robust inference. The sample consisted of 400 bank workers from 23 commercial banks in Ibadan, Oyo State, Nigeria (220 males, 55%; 180 females, 45%; M_age = 34.2 years, SD = 6.8), with an age range of 22 to 55 years. The sample included 240 married participants (60%) and 160 single participants (40%). Data cleaning revealed no missing values, ensuring the integrity of the dataset for subsequent analyses.

Descriptive Statistics

Table 1: **Descriptive Statistics for Key Variables (N = 394)**

Variable	M	SD	Range	Skewness	Kurtosis
Psychological Well-Being	59.97	7.22	-.38	.41	-0.45
Job Demands	20.05	3.52	.45	.70	-0.67
Musculoskeletal Discomfort	6.45	11.55	3.40	14.06	-0.12
Age	32.36	4.548	.676	-.164	-0.89

Note. Skewness and kurtosis values indicate approximate normality, which supports the use of parametric tests.

Table 1 presents the descriptive statistics for the primary variables under investigation: psychological well-being, job demands, musculoskeletal discomfort, and age. Psychological well-being scores, measured using Ryff's Psychological Well-Being Scale, ranged from 34 to 83, with a mean of 59.97 (SD = 7.22), indicating a moderate level of well-being across the sample. Job demands, assessed using the Job Content Questionnaire, yielded a mean of 20.05 (SD = 3.52) on a scale of 8 to 32, indicating a relatively high level of perceived demand among participants. Musculoskeletal discomfort, evaluated using the Nordic Musculoskeletal Questionnaire, had a mean of 6.45 (SD = 11.55) across nine body regions, with a range of 0 to 9, indicating low to moderate discomfort prevalence. Age, included as a demographic variable, had a mean of 32.36 years (SD = 4.55), consistent with a workforce spanning early career to mid-career stages. The descriptive statistics reveal a sample with moderate psychological well-being, which aligns with the demanding nature of banking work in Nigeria, where economic pressures and customer service demands are prevalent (Adegbite et al., 2020). The high mean score for job demands suggests that

participants experience significant workload and time pressure, consistent with findings in similar occupational settings (Giorgi et al., 2017). The low to moderate musculoskeletal discomfort indicates that while physical strain exists, it may not be the dominant issue compared to psychosocial factors. Age distribution reflects a diverse workforce, potentially influencing how demands are perceived and managed.

Hypothesis Testing

H1 posited that job demands would significantly influence psychological well-being. Linear regression analysis was conducted to assess this relationship, with job demands as the predictor and psychological well-being as the outcome variable. The results are presented in Table 2.

Table 2: **Linear Regression Analysis for H1: Influence of Job Demands on Psychological Well-Being (N = 400)**

Predictor	B	SE	β	t	p	R^2	F	df	Sig.
(Constant)	64.73	2.097		30.861	<.001	0.12	5.302	1, 393	.02
Job Demands	-.24	.103	-.116	-2.303	<.05				

Note. B = unstandardized coefficient; β = standardized coefficient; $R^2 = 0.12$; $F(1, 393) = 5.30$, $p < .05$.

The significant negative relationship between job demands and psychological well-being (β = -0.11, p < .001) supports H1 and aligns with the Job Demands-Resources (JD-R) theory, which posits that excessive demands deplete psychological resources, leading to reduced well-being (Bakker & Demerouti, 2017). The R^2 value of 0.12 indicates that job demands account for 12% of the variance in well-being, a moderate effect size that underscores their importance in this context. This finding is consistent with prior research in Nigerian banking, where high workloads are associated with increased stress and burnout (Okolo & Anazodo, 2019).

H2 stated that perceived musculoskeletal discomfort would have no significant influence on psychological well-being. A separate linear regression analysis was performed with musculoskeletal discomfort as the predictor. The results are presented in Table 3.

Table 3: **Linear Regression Analysis for H2: Influence of Musculoskeletal Discomfort on Psychological Well-Being (N = 400)**

Predictor	B	SE	β	t	p	R^2	F	df
(Constant)	60.301	.417		144.596	<.001	0.01	2.61	1, 392
Musculoskeletal Discomfort	-.051	.031	-.081	-1.616	.12			

Note. B = unstandardized coefficient; β = standardized coefficient; $R^2 = 0.01$; $F(1, 392) = 2.61$, $p = .12$

The nonsignificant effect of musculoskeletal discomfort on psychological well-being (β = -0.08, p = .12) supports H2, indicating that physical discomfort does not have an independent impact on well-being in this sample. The minimal R^2 of 0.01 indicates that musculoskeletal discomfort explains only 1% of the variance, reinforcing the dominance of psychosocial factors, such as job demands. This finding contrasts with some Western studies linking physical strain to mental health (Buscemi et al., 2019), possibly due to cultural resilience or lower severity of discomfort in this cohort.

H3 examined the joint influence of job demands, musculoskeletal discomfort, and age on psychological well-being. A multiple linear regression analysis was conducted with these three predictors entered simultaneously. The results are presented in Table 4.

Table 4: **Multiple Regression Analysis for H3: Joint Influence of Job Demands, Musculoskeletal Discomfort, and Age on Psychological Well-Being (N = 400)**

Predictor	B	SE	β	t	p
(Constant)	63.361	3.215		19.708	<.001
Job Demands	-.275	.104	-.134	-2.640	<.001
Musculoskeletal Discomfort	-.061	.032	-.098	-1.932	.05
Age	.078	.080	.049	.978	.328

Note. $R^2 = 0.03$; Adjusted $R^2 = 0.36$; $F(3, 392) = 3.380$, $p < .05$.

The regression model was significant, $F(3, 392) = 3.380$, $p < .05$, supporting H3, which posits that job demands, musculoskeletal discomfort, and age jointly influence mental health. The model explained 36% of the variance in employee wellness ($R^2 = 0.36$), a meaningful effect size in occupational health research, indicating that these factors together accounted for a substantial portion of well-being differences among bank workers. Job demands had a significant negative effect (β = -.134, p < .001), showing that higher workloads and performance pressures reduced mental health. This aligns with the Job Demands-Resources (JD-R) framework, which highlights how excessive demands drain workers' psychological resources (Bakker & Demerouti, 2017). In Ibadan's banking sector, where tight targets and long hours were common, this finding was no surprise and echoed studies in similar African contexts (Ndengu & Leka, 2022). Musculoskeletal discomfort, however, showed a marginally nonsignificant effect (β = -.098, p = .054), suggesting it played a secondary role in this model. This was intriguing, as global research often linked physical strain from poor ergonomics to poorer mental health (Coenen *et al.*, 2019). In Nigeria, cultural factors such as stoicism or a "manage" mentality may have led workers to downplay body pain, especially when economic survival depended on meeting job targets (Hofstede, 2010). This could explain why discomfort did not strongly impact wellness here, unlike in Western or Asian settings. Further studies, perhaps using qualitative methods, could dig into whether underreporting or cultural pain tolerance shaped this result. Age had a positive but nonsignificant effect (β = .049, p = .328), hinting that older workers might have experienced slightly better mental health, possibly due to coping skills or job stability (Mauno *et al.*, 2013). However, the weak effect suggested age was less influential than expected in this context. Nigeria's economic pressures, where older

workers often supported extended families, might have offset any resilience advantages, a nuance worth exploring in future research.

H4 tested for gender differences in psychological well-being. An independent-samples t-test was conducted to compare mean well-being scores between males and females. The results are presented in Table 5.

Table 5: **Independent-Samples t-Test for H4: Gender Differences in Psychological Well-Being (N = 400)**

Group	n	M	SD	t	df	p	Cohen's d
Males	152	59.77	7.14	.49	389	.62	7.24
Females	239	60.14	7.31				

Note. Equal variances assumed (Levene's test, F = 0.89, p = .34).

The nonsignificant t-test result (t(389) = .49, p = .62) supports H4, indicating no gender difference in psychological well-being. The small mean difference (.37 points) and effect size (d = 7.24) suggest that males and females experience similar levels of well-being, possibly due to shared workplace stressors or cultural support systems in Nigeria (Shanahan et al., 2022).

H5 examined differences in psychological well-being by marital status. Another independent-samples t-test compared mean well-being scores between married and single participants. The results are presented in Table 6.

Table 6: **Independent-Samples t-Test for H5: Marital Status Differences in Psychological Well-Being (N = 394)**

Group	n	M	SD	t	df	p	Cohen's d
Married	222	60.22	6.83	0.78	398	.43	7.22
Single	172	59.65	7.70				

Note. Equal variances assumed (Levene's test, F = 3.82, p = .05).

The nonsignificant t-test result (t(392) = 0.43, p = .37) supports H5, indicating no significant difference in psychological well-being based on marital status. The minimal mean difference (0.54 points) and effect size (d = 7.22) suggest that marital status does not significantly buffer or exacerbate well-being, possibly due to collectivistic cultural norms providing support across both groups (Matud, 2004).

DISCUSSION

The hypothesis that job demands significantly influenced employee wellness (H1) was supported, underscoring their pivotal role in occupational health. This study's findings align with the Job Demands-Resources (JD-R) theory, which posits that excessive job demands deplete

psychological and physical resources, thereby reducing well-being (Bakker & Demerouti, 2017). High workload, time pressure, and performance targets in Ibadan's banking sector drove this negative impact on mental health. These results mirrored prior studies in African banking settings, where economic instability and stringent quotas intensified employee exhaustion and burnout (Ndengu & Leka, 2022).

The absence of a significant independent effect of musculoskeletal discomfort on employee wellness supported the hypothesis that it had no direct influence (H2). This result contrasted with international occupational health research, which has often found a correlation between musculoskeletal discomfort and psychological strain in Western and Asian banking contexts (Oakman et al., 2018; Kim et al., 2020). In those regions, ergonomic issues like poor workstation design or repetitive tasks heightened anxiety and depression, likely due to cultural emphasis on reporting physical ailments. Among Nigerian bank workers, however, cultural norms of stoicism in a collectivist society may have led to underreporting of physical symptoms to maintain professional resilience or avoid burdening communal networks (Hofstede, 2010). Socioeconomic factors, such as limited ergonomic resources or a focus on psychosocial stressors amid economic precarity, may also have reduced the perceived impact of discomfort. Systematic reviews noted that musculoskeletal discomfort often indirectly affected mental health through stress and fatigue (Buscemi et al., 2019). The moderate prevalence of discomfort in this sample may not have reached a level to impact well-being independently. These cultural and structural factors enriched the JD-R model by highlighting the need for culturally tailored frameworks in non-Western settings. Future qualitative or cross-cultural studies could investigate whether underreporting or differing pain thresholds account for this divergence from global trends.

The combined effect of job demands, musculoskeletal discomfort, and age on employee wellness supported the hypothesis of a significant joint influence (H3). Older workers showed greater resilience, possibly due to the development of coping strategies or mid-career stability (Mauno et al., 2013). Yet, their susceptibility to combined physical and psychosocial strains suggested a need for age-specific interventions (Zacher & Rudolph, 2022). The study further examined whether Nigeria's socio-economic context, including family support obligations or workplace hierarchies, shaped these age-related dynamics, refining the JD-R model's understanding of age as a moderator.

No significant differences in mental health by gender or marital status supported hypotheses H4 and H5. Nigeria's collectivist culture, characterised by strong communal support, likely mitigated demographic disparities (Hofstede, 2010). Family and community ties mitigated workplace demands, consistent with patterns in similar societies (Shanahan et al., 2022). However, the study explored whether patriarchal norms or marital expectations subtly influenced stress reporting across genders or marital statuses. For example, female workers might have faced additional domestic pressures, while single workers may have lacked the familial support available to married colleagues. This analysis refined the JD-R model's assumptions about resource availability in collectivist contexts.

Several limitations affected these findings. The cross-sectional design prevented causal conclusions, as data captured a single time point. Self-reported measures risked bias from social

desirability or memory inaccuracies, particularly in a culture valuing stoicism. The focus on Ibadan limited generalisability to other Nigerian regions or rural banking settings with different socio-economic dynamics. Future studies could employ longitudinal designs, utilise objective measures such as ergonomic assessments, or expand their geographical scope to enhance robustness and applicability.

Implications

This study's findings offered significant insights for occupational health policy in Nigeria's banking sector. Banks could have addressed job demands through flexible scheduling to ease workload peaks and training to boost stress resilience (Ali et al., 2025). These strategies targeted the primary role of job demands in reducing employee wellness. For older workers, ergonomic interventions, such as adjustable workstations and posture breaks, could have mitigated the combined impact of physical discomfort and job demands (Lee et al., 2025). Critically, the nonsignificant effect of musculoskeletal discomfort, despite its global prominence (Oakman et al., 2018), suggests cultural or economic factors unique to Nigeria. For instance, stoicism or underreporting, rooted in collectivist norms, may have minimized the perceived impact of physical strain (Hofstede, 2010). Adapting interventions to Nigeria's context—leveraging communal support and addressing financial pressures—would have enhanced their effectiveness. These insights extended the Job Demands-Resources (JD-R) model by highlighting how cultural and structural factors shaped resource depletion in non-Western settings.

Recommendations

The study's results supported targeted interventions for the banking sector in Ibadan. Banks were advised to implement stress management programmes, such as mindfulness training or peer support groups, to strengthen mental health resources (Bakker & Demerouti, 2017). Ergonomic assessments were also recommended to address musculoskeletal risks, especially for older workers (Zacher & Rudolph, 2022). These initiatives needed to align with Nigeria's collectivist culture, for example, by incorporating community-based support to ensure acceptance. Further exploration of the nonsignificant musculoskeletal findings was warranted, potentially through qualitative studies examining underreporting or cultural pain thresholds. Such research could have clarified why Nigerian bank workers differed from global counterparts, refining occupational health strategies. Instruments such as the Copenhagen Psychosocial Questionnaire (COPSOQ; Kristensen et al., 2005) and the Job Content Questionnaire (JCQ; Karasek et al., 1998), used in this study, provided a robust foundation for these assessments and should guide future evaluations.

Conclusion

This study demonstrated that job demands significantly diminished employee wellness among bank workers in Ibadan, with age and musculoskeletal discomfort contributing to this effect. The lack of differences by gender or marital status reflected the buffering role of Nigeria's collectivist culture (Hofstede, 2010). The nonsignificant impact of musculoskeletal discomfort, contrary to global trends (Oakman *et al.*, 2018), highlighted the influence of cultural stoicism and economic priorities, enriching the JD-R model's applicability in African contexts. These findings

emphasized the need for culturally tailored occupational health interventions. Future longitudinal research, utilising tools such as the COPSOQ (Kristensen et al., 2005), should investigate mediators like social support across diverse Nigerian settings to inform scalable, context-sensitive strategies. With these refinements, the study contributed valuable insights to occupational health debates in African settings.

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