

OCCUPATIONAL STRESS FACTORS AND EMPLOYEE ENGAGEMENT AMONG NON-ACADEMIC STAFF OF UNIVERSITIES IN KATSINA STATE

Aliyu Sani Ibrahim ¹ & Aminu Ibrahim Lawal ²

¹Department of Business Management, Faculty of Management Sciences, Federal University Dutsin-Ma, Katsina State, Nigeria.

Email: aliyusanitati@gmail.com

²Azman University, Kano, Nigeria. Email: aibrahimlawal8@gmail.com

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ABSTRACT

Occupational stress remains an important organisational concern because workplace demands, working conditions and interpersonal experiences can influence employees' wellbeing and engagement. However, limited empirical evidence exists on whether occupational stress factors predict employee engagement among non-academic staff of universities in Katsina State. This study examined the effects of workload, work environment and interpersonal relations on employee engagement among non-academic staff of universities in Katsina State. A quantitative approach and descriptive survey design were adopted. The population comprised 3,251 non-academic staff from Federal University Dutsin-Ma, Umaru Musa Yar'adua University and Al-Qalam University, Katsina. A sample of 343 respondents was determined using the Krejcie and Morgan approach and selected through proportionate allocation and simple random sampling. Primary data were collected using a structured questionnaire and analysed using descriptive statistics, Pearson correlation and Ordinary Least Squares regression at the 5% significance level. Findings showed that workload, work environment and interpersonal relations had positive but statistically insignificant effects on employee engagement. The regression model explained 2.1% of the variance in engagement and was not statistically significant. These findings provide context-specific evidence that the occupational stress factors examined may not be the primary determinants of engagement among non-academic university staff in Katsina State. The study recommends continued attention to working conditions while prioritising factors such as leadership, organisational culture, job security, reward systems, psychological capital and career development in future research and engagement strategies.

Keywords: Occupational stress factors; Workload; Work environment; Interpersonal relations; Employee engagement

1.1 Introduction

Occupational stress has become one of the most significant organisational and human resource challenges affecting employee wellbeing, productivity and organisational sustainability across the world. According to the International Labour Organization, psychosocial risks and work-related stress have become major workplace concerns because changing work patterns, technological advancement, organisational restructuring and increasing job demands continue to affect employees across different sectors (International Labour Organization [ILO], 2024). Similarly, the World Health Organization explains that occupational stress occurs when workplace demands exceed employees' knowledge, abilities and available resources, thereby increasing the likelihood of physical illness, psychological distress and reduced work performance (World Health Organization [WHO], 2022). These developments have intensified scholarly and managerial interest in identifying organisational factors that contribute to occupational stress and understanding their implications for employee outcomes. Within higher education institutions, occupational stress has become increasingly evident because universities operate in environments characterised by expanding student enrolment, limited financial resources, growing accountability requirements and continuous pressure to improve institutional performance.

Although academic staff often receive greater research attention, non-academic staff also experience considerable occupational stress because they perform administrative, technical and support functions that sustain university operations. These responsibilities continue to increase with digital transformation, policy reforms, quality assurance requirements and demands for efficient service delivery. Akah et al. (2022) found that occupational stress significantly influences employee performance in Nigerian universities, while workload remains one of the major stress-inducing factors confronting university personnel. Employee engagement represents a positive and fulfilling work-related state characterised by vigour, dedication and absorption in assigned responsibilities. Engaged employees display enthusiasm, commitment and willingness to contribute beyond formal job requirements, thereby improving organisational effectiveness. However, occupational stress can weaken employee engagement by reducing employees' motivation, emotional attachment and commitment to organisational goals. Eseadi et al. (2022) reported that occupational stress negatively influences work engagement among Nigerian employees, demonstrating that increased workplace stress diminishes employees' willingness to remain psychologically and emotionally invested in their work. However, Bolliger et al. (2023), among office workers in academic settings, found that job demands were not significantly associated with next-day work engagement, although job strain negatively predicted engagement.

Similarly, Kesuma et al. (2024) found no significant direct effect of job stress on work engagement among teaching staff. These mixed findings suggest that the relationship may depend on the type of stressor, occupational group, organisational context and measurement approach. Thus, among the major occupational stress factors, workload refers to the quantity, complexity and intensity of tasks expected from employees within available working hours. Increasing administrative responsibilities, staff shortages, frequent reporting requirements and continuous technological changes have considerably expanded the workload of non-academic staff in Nigerian universities. Work environment encompasses the physical, organisational and social conditions under which employees perform their duties, including office facilities, equipment, safety, organisational culture and managerial support. Funding constraints affecting many public universities have limited investments in modern infrastructure and conducive working conditions, thereby creating additional sources of occupational stress. Interpersonal relations describe the quality of interactions among supervisors, colleagues and other organisational members. Positive interpersonal relationships encourage teamwork, trust and effective communication, whereas workplace conflict, poor supervision and ineffective communication contribute to increased stress and lower employee morale. Akah et al. (2022) identified workload and institutional conditions among important workplace factors affecting employees in Nigerian universities.

The situation is particularly relevant to universities in Katsina State, where non-academic staff operate amid increasing service expectations, resource constraints, technological transformation and inadequate facilities. From the Job

Demands-Resources (JD-R) perspective, workload represents a job demand expected to deplete energy, whereas supportive work environments and interpersonal relations constitute resources expected to enhance engagement. Consequently, examining how workload, work environment and interpersonal relations influence employee engagement among non-academic staff in universities in Katsina State is essential for developing evidence-based policies capable of improving employee wellbeing, organisational commitment and institutional performance.

1.2 Statement of the Problem

The ability of universities to achieve effective teaching, research and community service depends not only on academic staff but also on the commitment and engagement of non-academic employees who provide administrative and technical support. Universities should maintain supportive conditions that minimise occupational stress and encourage engagement through manageable workloads, conducive environments and positive interpersonal relationships. However, Nigerian universities face financial constraints, inadequate infrastructure, staff shortages, expanding administrative responsibilities and rising service expectations, exposing non-academic staff to occupational stress. These challenges may reduce employees' capacity and commitment. Previous studies indicate that occupational stress can influence engagement by affecting motivation and dedication. Breaugh (2021) found that work stress significantly reduced engagement, while Al Hajj et al. (2023) showed that stress appraisal influenced whether demands enhanced or diminished engagement. Nigerian evidence also reported significant relationships among library personnel (Eseadi et al., 2022) and police officers (Simon & Aruoren, 2024). However, evidence is mixed. Bolliger et al. (2023) found that job strain reduced next-day engagement, whereas job demands were not significantly associated with engagement. Similarly, Kesuma et al. (2024) found no significant direct effect of job stress on engagement among teaching staff. Despite these findings, limited research has examined workload, work environment and interpersonal relations among non-academic university staff. Existing studies focus on other occupational groups and contexts, limiting applicability to universities in Katsina State. Differences in organisational structure, culture, resources and responsibilities may produce different engagement outcomes. This study therefore examines workload, work environment, interpersonal relations and employee engagement among non-academic staff of universities in Katsina State, providing context-specific evidence for human resource management and workplace policies.

Based on the specific research objectives, the following null hypotheses are formulated:

Ho1: Workload has no significant effect on employee engagement among non-academic staff of universities in Katsina State.

Ho2: The work environment has no significant effect on employee engagement among non-academic staff of universities in Katsina State.

Ho3: Interpersonal relations have no significant effect on employee engagement among non-academic staff of universities in Katsina State.

1.3 Significance of the Study

This study is significant because it provides theoretical, managerial and policy contributions by demonstrating that workload, work environment and interpersonal relations do not significantly predict employee engagement among non-academic staff of universities in Katsina State. Theoretically, this finding contributes to the Job Demands-Resources perspective by suggesting that its expected demands-resources mechanisms may not operate uniformly across occupational and institutional contexts. The result therefore provides an opportunity to refine existing explanations by considering factors such as organisational culture, leadership, job security, reward systems and psychological capital that may exert stronger influences on engagement within Nigerian public universities. Managerially, the findings caution university administrators against assuming that reducing workload or improving workplace conditions alone will

necessarily increase employee engagement. Instead, management should consider broader organisational and psychological factors when developing engagement strategies. From a policy perspective, the findings provide evidence for designing staff welfare and human resource policies that address the wider determinants of engagement rather than focusing exclusively on occupational stress. The study is also significant to employees because it highlights that engagement may be sustained by factors beyond the occupational stress dimensions examined. Finally, the findings contribute to scholarship by providing context-specific evidence that challenges predominantly significant findings in previous research and establishes a basis for further investigation into alternative determinants of employee engagement among non-academic staff in Nigerian universities.

2. Literature Review

2.1 Concept of Employee Engagement

Employee engagement has become a central concept in organisational behaviour because it reflects the degree to which employees invest physical, cognitive and emotional energy in performing their work and contributing to organisational success. The American Psychological Association defines employee engagement as employees' behavioural, emotional and cognitive connection to their work and organisation, characterised by vigour, dedication and absorption, while recognising job resources and personal resources as important drivers of engagement (American Psychological Association, 2026). Similarly, Mazzetti et al. (2023) described work engagement as a positive work-related psychological state that develops when employees possess adequate job resources to cope with workplace demands, thereby promoting commitment, performance and wellbeing. In another perspective, Wittenberg et al. (2024) argued that employee engagement extends beyond enthusiasm for work by representing employees' active psychological presence and meaningful connection with organisational roles, responsibilities and objectives.

2.2 Concept of Occupational Stress

Occupational stress is widely recognised as a major organisational concern because it affects employees' physical health, psychological wellbeing and work performance. The World Health Organization defined occupational stress as the response that occurs when work demands and pressures exceed employees' knowledge, abilities and available resources to cope effectively, thereby increasing the risk of adverse health and organisational outcomes (World Health Organization [WHO], 2022). Similarly, the International Labour Organization described work-related stress as a psychosocial response arising when workplace demands become excessive or unmanageable, emphasising that poor job design, excessive workload, low job control and unhealthy workplace relationships constitute important stressors within organisations (International Labour Organization [ILO], 2022). From a scholarly perspective, Corpuz (2024) explained occupational stress as the physical, emotional and psychological reaction experienced when employees encounter persistent workplace demands that exceed their coping capacity, often resulting in reduced wellbeing and organisational effectiveness.

2.3.1 Workload

Workload is one of the most widely recognised occupational stress factors because it reflects the volume, complexity, intensity and time demands associated with assigned job responsibilities. It represents the extent to which employees are required to complete tasks within available time and organisational resources. According to Hasson et al. (2023), workload should not be viewed simply as the quantity of work performed but as a multidimensional construct that considers employees' perception of task demands, available resources and their capacity to accomplish assigned duties effectively. Similarly, Pindek et al. (2023) argued that workload exists along a continuum in which both excessive and insufficient work can produce undesirable organisational outcomes, although excessive workload is more consistently associated with stress, frustration and reduced employee wellbeing.

2.3.2 Work Environment

Work environment is a fundamental occupational stress factor because it comprises the physical, psychological, social and organisational conditions under which employees perform their duties. It includes workplace safety, office facilities, equipment, organisational culture, leadership practices, communication systems and the availability of resources required for effective job performance. The World Health Organization explained that a healthy work environment promotes employees' physical, mental and social wellbeing by providing safe working conditions, supportive organisational practices and opportunities for participation in decision-making (World Health Organization [WHO], 2024). Likewise, the International Labour Organization described the psychosocial working environment as the interaction between job design, work organisation, management practices and workplace relationships, all of which influence employees' health, wellbeing and organisational performance (International Labour Organization [ILO], 2026).

2.3.3 Interpersonal Relations

Interpersonal relations refer to the quality of social and professional interactions among employees, supervisors and other organisational members within the workplace. They encompass communication, cooperation, mutual respect, trust, teamwork and the availability of social support that enable employees to perform their duties effectively. The International Labour Organization identifies interpersonal relationships as a core component of the psychosocial working environment, noting that supportive supervision, positive colleague relationships and effective communication reduce psychosocial risks, whereas bullying, harassment, discrimination, social isolation and poor line management increase occupational stress and negatively affect organisational performance (International Labour Organization [ILO], 2022).

2.5 Empirical Review

Breaugh (2021) examined work stress and employee engagement among approximately 4,403 public-sector employees across Europe using European Working Conditions Survey data and structural equation modelling. Work stress significantly reduced engagement, while satisfaction of autonomy, competence and relatedness partly explained the relationship. The findings show that psychological resources may buffer stress. Eseadi et al. (2022) investigated occupational stress and work engagement among 76 library personnel in selected Nigerian universities. Using a descriptive survey and questionnaire data, the study found that high occupational stress was significantly associated with lower engagement, while employees experiencing lower stress reported higher engagement. The study provides relevant Nigerian university evidence, although its library context limits generalisation. Al Hajj et al. (2023) examined stress appraisals and work engagement among 493 employees using repeated diary surveys over five days. Challenge stressors increased engagement, whereas hindrance stressors reduced it. Stress appraisal influenced these relationships, showing that employees' interpretations of demands and work conditions can determine whether stress becomes motivating or harmful. The study therefore supports examining specific stress dimensions rather than occupational stress as a single construct.

Ugwu et al. (2023) examined work engagement, home demands and work-life balance among 219 university teaching staff in South-East Nigeria. Using a cross-sectional survey and PROCESS analysis, the study found that engagement was positively associated with home demands, while home demands negatively affected work-life balance and mediated the relationship between engagement and work-life balance. The study demonstrates that engagement is influenced by broader work and non-work demands. Bolliger et al. (2023) examined stress, recovery and next-day engagement among 55 office workers in two academic settings in Belgium and Slovenia. Using Ecological Momentary Assessment over 15 working days, the study found that job strain predicted lower engagement and job control enhanced engagement; however, job demands themselves were not significantly associated with next-day engagement. This finding

demonstrates that stressors may not uniformly predict engagement. Mauno et al. (2024) examined intensified job demands and engagement across occupations. The findings showed that intensified demands could function as manageable challenges and support engagement, whereas excessive or poorly managed demands could undermine wellbeing. The findings indicate that job demands depend on intensity, interpretation and context. This suggests that workload alone may not necessarily reduce engagement when employees possess adequate resources or perceive demanding tasks positively.

Kaplan et al. (2024) examined emotional demands, exhaustion and engagement among 429 nurses in Istanbul, Türkiye, using questionnaires and PLS-SEM. Emotional demands and exhaustion significantly influenced engagement, while mindfulness mediated the relationship between exhaustion and engagement but not emotional demands. The findings demonstrate that psychological resources can shape responses to workplace stress. Simon and Aruoren (2024) examined occupational stress and engagement among 251 Nigerian police officers in Delta State using survey, correlation and multiple regression. Workload, role conflict and ambiguity, and job demand significantly influenced engagement and jointly explained approximately 58% of its variation. The study provides Nigerian evidence of significant stress-engagement relationships, although policing has distinctive operational demands. Kesuma et al. (2024) examined job stress, engagement and subjective wellbeing among 333 teaching staff from educational institutions in Medan City, Indonesia. Structural equation modelling showed that job stress had no significant direct effect on engagement. This finding demonstrates that occupational stress does not necessarily predict engagement in educational settings.

Hafstad et al. (2025) examined burnout and engagement using network analysis and found a strong negative association between emotional exhaustion and engagement. Fan et al. (2025) found that role stress could influence engagement through positive and negative cognitive-affective pathways, with moderate stress potentially encouraging engagement but excessive stress reducing engagement. Keykha et al. (2025), studying 251 paediatric nurses, found a significant negative relationship between occupational stress and engagement, while psychological capital partly mediated the relationship. Collectively, these studies show that stress-engagement relationships vary according to stressor type, personal resources and context. These mixed findings provide a balanced basis for examining workload, work environment and interpersonal relations among non-academic staff in Katsina State. The evidence suggests that occupational stress should not be treated as a uniform predictor of engagement. Differences in occupational roles, organisational environments, stressor characteristics, coping resources and measurement approaches may explain divergent results. This mixed evidence strengthens the rationale for investigating the predictors of engagement among non-academic university staff in Katsina State.

2.6.1 Job Demands–Resources (JD-R) Theory

The Job Demands–Resources (JD-R) Theory was originally developed by Evangelia Demerouti, Arnold B. Bakker and colleagues in 2001 and has since become one of the most influential frameworks for explaining employee wellbeing, burnout and work engagement. The theory assumes that excessive job demands deplete employees' physical and psychological resources, increasing stress and reducing work engagement, whereas sufficient job resources stimulate motivation, resilience and organisational commitment. Thus, this study adopts the Job Demands–Resources (JD-R) Theory as its underpinning theoretical framework because it provides the most appropriate explanation for the relationship between occupational stress factors and employee engagement. The theory proposes that employee wellbeing and engagement are shaped by the balance between job demands and job resources. Excessive job demands consume employees' physical and psychological energy, whereas adequate job resources promote motivation, resilience and sustained work engagement (Bakker et al., 2023). Within the context of this study, workload, work environment and interpersonal relations represent important workplace demands and resources that determine employees' level of engagement. Excessive workload, poor working environments and unhealthy interpersonal relationships are expected to increase occupational stress and reduce employees' vigour, dedication and absorption, while supportive working

conditions are likely to improve engagement. The JD–R Theory explicitly integrates both adverse job demands and supportive organisational resources into a single explanatory framework, making it more suitable for examining occupational stress factors. Therefore, the theory provides the strongest theoretical basis for explaining how workload, work environment and interpersonal relations influence employee engagement among non-academic staff of universities in Katsina State.

3. Methodology

This study adopted a quantitative approach and descriptive survey design to examine occupational stress factors and employee engagement among non-academic staff of universities in Katsina State. The target population comprised 3,251 non-academic staff: 2,564 from Federal University Dutsin-Ma, 472 from Umaru Musa Yar'adua University and 215 from Al-Qalam University Katsina. Using the Krejcie and Morgan approach, a sample size of 343 was determined. Proportionate allocation produced 270 respondents for Federal University Dutsin-Ma, 50 for Umaru Musa Yar'adua University and 23 for Al-Qalam University Katsina. The sampling frame was obtained from the relevant university administrative offices, and eligible staff were identified from institutional staff lists. Within each institution, respondents were selected using simple random sampling from the available staff lists to give eligible staff an equal probability of selection. A total of 446 questionnaires were distributed through online and printed formats, of which 385 were returned, representing an 86.32% response rate. After screening for completeness, 343 questionnaires were retained for analysis, while 42 returned questionnaires were excluded because they were incomplete.

The questionnaire comprised demographic items and four substantive scales. Workload measured excessive task volume, tight deadlines, multiple responsibilities, sustained mental effort, insufficient completion time and workload-related strain. Work environment assessed adequacy of facilities, physical conditions, safety, equipment, resources, organisational policies and workplace support. Interpersonal relations measured relationships with colleagues and supervisors, cooperation, communication, conflict and social support. Employee engagement assessed enthusiasm, motivation, commitment, discretionary effort, pride, persistence and involvement in daily responsibilities. Items were rated on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Data were analysed using frequencies, percentages, means, standard deviations, Pearson correlation and multiple regression at the 5% significance level.

4. Results, Findings, and Discussion

4.1 Demography of the Respondents

Table 4.1: Demographic Data of the Respondents

Items	Frequency	Percentage (%)
Gender		
Male	203	59.2
Female	140	40.8
Age Group		
18–29 years	74	21.6
30–39 years	132	38.5
40–49 years	93	27.1
50 years and above	44	12.8

Items	Frequency	Percentage (%)
University		
Federal University, Dutsin-Ma	270	78.7
Umaru Musa Yar'adua University	50	14.6
Al-Qalam University, Katsina	23	6.7
Qualification		
SSCE/NECO	14	4.1
ND/NCE	49	14.3
HND/Bachelor's Degree	148	43.1
Master's Degree	106	30.9
PhD/Others	26	7.6
Years of Service		
Less than 5 years	63	18.4
5–10 years	102	29.7
11–15 years	76	22.2
16–20 years	55	16.0
Above 20 years	47	13.7

Source: Survey, 2026.

Table 4.1 presents the demographic characteristics of the 343 respondents. Males constituted 203 (59.2%), while females accounted for 140 (40.8%), indicating representation of both genders. Regarding age, 74 respondents (21.6%) were aged 18–29 years, 132 (38.5%) were 30–39 years, 93 (27.1%) were 40–49 years, and 44 (12.8%) were 50 years and above. Thus, most respondents were within the 30–49 age range. Institutionally, 270 respondents (78.7%) were from Federal University Dutsin-Ma, 50 (14.6%) from Umaru Musa Yar'adua University and 23 (6.7%) from Al-Qalam University, Katsina, reflecting the proportionate sampling allocation. Regarding educational qualifications, 14 respondents (4.1%) possessed SSCE/NECO, 49 (14.3%) held ND/NCE, 148 (43.1%) possessed HND/Bachelor's degrees, 106 (30.9%) held Master's degrees, and 26 (7.6%) possessed PhD or other qualifications. Years of service showed that 63 respondents (18.4%) had served below five years, 102 (29.7%) for 5–10 years, 76 (22.2%) for 11–15 years, 55 (16.0%) for 16–20 years, and 47 (13.7%) for above 20 years. Overall, the demographic diversity provides an appropriate basis for examining occupational stress and employee engagement across different employee characteristics and institutional contexts.

4.2 Descriptive Statistics

Table 4.2: Mean and Standard Deviation of the Variables

Variable	N	Mean	Std. Dev.	No. of Items	Cronbach's Alpha
WKL (Workload)	343	3.8667	.47628	7	.875
WKE (Work Environment)	343	3.9658	.44055	7	.855

Variable	N	Mean	Std. Dev.	No. of Items	Cronbach's Alpha
IRE (Interpersonal Relations)	343	4.1020	.38392	7	.807
EME (Employee Engagement)	343	4.9150	.11475	7	.782

Source: Computed using SPSS v30.

Table 4.2 presents the descriptive statistics and reliability results for the study variables based on 343 responses. Workload recorded a mean of 3.8667 (SD = 0.47628), indicating relatively high perceptions of workload, with good internal consistency ($\alpha = .875$). Work environment recorded a mean of 3.9658 (SD = 0.44055) and demonstrated strong reliability ($\alpha = .855$). Interpersonal relations recorded a mean of 4.1020 (SD = 0.38392), representing the highest mean among the occupational stress dimensions, with good reliability ($\alpha = .807$). Employee engagement recorded a mean of 4.9150 (SD = 0.11475), indicating exceptionally high reported engagement and very limited variability among respondents. Although this may reflect genuinely high engagement, the concentration of scores near the maximum of the five-point scale also suggests a possible ceiling effect. Ceiling effects can restrict variability and reduce the ability of statistical analyses to detect relationships between variables. Additionally, the unusually favourable responses may reflect social desirability or acquiescence bias, particularly where respondents evaluate their own engagement. Therefore, the null regression findings are interpreted cautiously, as restricted variance in employee engagement may have attenuated observable associations with workload, work environment and interpersonal relations.

The Cronbach's Alpha coefficient of 0.782 exceeds the recommended minimum threshold of 0.70, demonstrating acceptable internal consistency and confirming that the employee engagement scale reliably measured the intended construct. From the perspective of the Job Demands–Resources Theory, the descriptive statistics indicate that respondents recognised workload, work environment and interpersonal relations as important workplace conditions capable of influencing employee engagement, consistent with Bakker et al. (2023), who argued that job demands and resources shape employees' motivation and work behaviour. Overall, the reliability coefficients ranging from 0.782 to 0.875 confirm that all measurement scales possessed acceptable internal consistency, providing a dependable basis for subsequent correlation and regression analyses.

4.3 Correlation Analysis

Table 4.3: Correlation Matrix Result

	EME	WKL	WKE	IRE
EME	1			
WKL	.086	1		
WKE	.090	-.038	1	
IRE	.061	-.051	-.017	1

Source: Computed using SPSS v30. Occupational Stress Factors proxy by workload (WKL), work environment (WKE), and interpersonal relations (IRE); Employee Engagement (EME).

Table 4.3 presents the correlation matrix showing relationships between occupational stress factors and employee engagement among non-academic staff of universities in Katsina State. Workload (WKL) showed a positive but very weak relationship with employee engagement (EME) ($r = .086$), while work environment (WKE) recorded a similarly weak positive association ($r = .090$). Interpersonal relations (IRE) demonstrated a weak positive relationship with engagement ($r = .061$). These coefficients indicate negligible bivariate associations and suggest that the three factors have limited direct relationships with engagement. Intercorrelations among the independent variables were weak and negative, suggesting the constructs are distinct with no indication of problematic multicollinearity. Findings differ from

Breaugh (2021), Eseadi et al. (2022), Simon and Aruoren (2024), Kaplan et al. (2024), Hafstad et al. (2025) and Keykha et al. (2025), who reported significant relationships between occupational stress and engagement. However, they are consistent with mixed evidence from Bolliger et al. (2023) and Kesuma et al. (2024), who reported non-significant relationships for particular stress dimensions. From a JD-R perspective, these results suggest that the examined demands and resources alone may not sufficiently explain engagement. Multiple regression was therefore required to assess their combined predictive effects.

4.4 Regression Analysis

Table 4.4: OLS Regression Results

Variable	Coefficients	Std. Error	t	Sig.
(Constant)	4.649	.103	44.940	.000
WKL	.022	.013	1.725	.085
WKE	.025	.014	1.759	.079
IRE	.020	.016	1.243	.215
R Square	.021			
Adj. R Square	.012			
F (ANOVA)	2.371			
Sig.	.070			

Note: Dependent Variable: Employee Engagement (EME). Source: Computed using SPSS v30.

Table 4.4 presents the Ordinary Least Squares regression results examining the effects of occupational stress factors on employee engagement among non-academic staff of universities in Katsina State. The constant coefficient was 4.649 and statistically significant ($t = 44.940$, $p < .001$), indicating that predicted employee engagement remained high when the explanatory variables were held constant. Workload (WKL) had a positive coefficient of 0.022 ($t = 1.725$, $p = .085$), which was not statistically significant at the 5% level; the null hypothesis was accepted. Work environment (WKE) had a positive coefficient of 0.025 ($t = 1.759$, $p = .079$), also statistically insignificant, and its null hypothesis was accepted. Interpersonal relations (IRE) produced a positive coefficient of 0.020 ($t = 1.243$, $p = .215$), which was not statistically significant; hence, the corresponding null hypothesis was accepted. The coefficient of determination ($R^2 = .021$) shows that the three predictors jointly explained only 2.1% of the variance in employee engagement, while 97.9% remained unexplained by the model. The overall model was not statistically significant, $F(3, 339) = 2.371$, $p = .070$. The findings are consistent with mixed evidence from Bolliger et al. (2023) and Kesuma et al. (2024), who reported non-significant stress-engagement relationships. The results therefore suggest that occupational stress factors alone may be insufficient to explain employee engagement among non-academic university staff, and that other factors, including leadership, organisational culture, job security, reward systems, career development and psychological capital, warrant investigation in future studies.

4.5 Discussion of Findings

The findings show that workload, work environment and interpersonal relations did not significantly predict employee engagement among non-academic staff in Katsina State. Although all three coefficients were positive, their effects were small and statistically non-significant, while the overall model explained only 2.1% of the variance in engagement ($R^2 = .021$; adjusted $R^2 = .012$; $F = 2.371$, $p = .070$). Thus, 97.9% remained unexplained, suggesting that factors beyond the model may be more important determinants of engagement. From the Job Demands–Resources (JD-R) perspective,

these findings do not necessarily invalidate the theory but may indicate contextual and measurement boundary conditions. JD-R theory recognises that engagement is influenced by multiple job and personal resources rather than isolated demands or resources (Bakker et al., 2023). Leadership support, organisational culture, reward systems, job security, career development and psychological capital may therefore explain substantial variation in engagement. The exceptionally high engagement score ($M = 4.915$, $SD = 0.115$) provides another plausible explanation. Scores concentrated near the upper scale limit suggest restricted variance and a potential ceiling effect, making relationships difficult to detect. Social desirability or acquiescence bias may also have contributed to favourable responses. The null findings should therefore be interpreted cautiously.

The findings are also consistent with mixed empirical evidence. Bolliger et al. (2023), studying academic office workers, found that job demands were not significantly associated with next-day engagement, although job strain negatively predicted engagement. Similarly, Kesuma et al. (2024) found no significant direct effect of job stress on engagement among teaching staff. These findings indicate that stress-engagement relationships are not universally significant and may vary across occupational and institutional contexts. Therefore, the present findings suggest that engagement among non-academic university staff may be sustained by factors beyond workload, work environment and interpersonal relations. Rather than being merely an unexpected null result, the findings challenge the assumption that these JD-R dimensions independently explain engagement across contexts. Future research should examine broader organisational and personal resources and employ measures with sufficient variability to clarify engagement determinants in Nigerian universities.

5. Conclusion and Recommendations

This study examined the effects of workload, work environment and interpersonal relations on employee engagement among non-academic staff of universities in Katsina State. The findings showed that none of the three occupational stress factors significantly predicted employee engagement at the 5% significance level, despite their positive coefficients. The results therefore indicate that these occupational stress dimensions, considered individually and jointly, have limited explanatory power for employee engagement within the study context. Importantly, the findings represent more than a failure to confirm the expected relationships; they provide context-specific empirical evidence that challenges the assumption that occupational demands and resources necessarily constitute the primary drivers of engagement among non-academic university staff. From the Job Demands-Resources (JD-R) perspective, the findings suggest that the core demands-resources mechanism may operate differently in Nigerian university settings or may be overshadowed by other organisational and personal factors. The very high engagement scores and restricted variability may also have limited the ability to detect relationships statistically. Future research should therefore examine leadership, organisational culture, job security, reward systems, career development and psychological capital as potential determinants of engagement.

Based on the findings, university management should maintain reasonable attention to workload distribution, work environment and interpersonal relations as sound organisational practices, but these factors should not be treated as the primary determinants of employee engagement in the study context. Management should therefore prioritise potentially stronger determinants identified by the study, particularly effective leadership, organisational culture, job security, reward systems, psychological capital and career development. Leadership practices should promote recognition, participation, fairness and supportive supervision, while reward systems should appropriately recognise employee contributions and performance. Universities should also strengthen organisational cultures that encourage trust, inclusion, communication and commitment, while providing opportunities for professional development and career progression. At the same time, management should continue periodic workload assessments, adequate provision of essential facilities and constructive conflict-resolution mechanisms to prevent avoidable workplace problems, even

though these factors were not significant predictors of engagement. Human resource managers should conduct periodic employee engagement assessments to identify factors influencing staff motivation and commitment within their institutions. Policy makers and governing councils should support policies addressing broader organisational and psychological determinants of engagement. Future researchers should investigate leadership, organisational support, reward systems, job security, psychological capital and career development using longitudinal or mixed-method approaches. Further studies across other Nigerian universities are also recommended to establish whether the present findings are context-specific or generalisable across higher education institutions.

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