British Journal of Multidisciplinary and Advanced Studies,6(4),51-61, 2025
Education, Learning, Training & Development
Print ISSN: 2517-276X
Online ISSN: 2517-2778
https://bjmas.org/index.php/bjmas/index

Influence of Job Stress on Burnout Among Academic Staff of Polytechnics in Southwest Nigeria

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doi: https://doi.org/10.37745/bjmas.2022.04937 Published August 09, 2025

Citation: Bankole A.M., Bankole E.T., and Ajayi B.M. (2025) Influence of Job Stress on Burnout Among Academic Staff of Polytechnics in Southwest Nigeria, *British Journal of Multidisciplinary and Advanced Studies*, 6(4),51-61

Abstract: *This study examined the influence of job stress on burnout among academic staff of polytechnics in Southwest Nigeria. A descriptive survey research design was employed, utilizing a multi-stage sampling technique. The population comprised all academic staff of polytechnics in Southwest Nigeria, with a sample of 480 participants selected through multi-stage random sampling. Data were collected using the Job-Related Tension Index (JRTI), developed by Kahn, Wolfe, Quinn, Snock, and Rosenthal (1964), to assess job stress, and the Maslach Burnout Inventory (MBI), developed by Maslach and Jackson (1986), to measure burnout. The findings revealed a significant influence of job stress on burnout among the academic staff ($t(478) = -5.26$, $p < .01$), with a strong positive correlation between job stress and burnout ($r = .72$, $p < .01$). Additionally, no significant gender differences were observed in burnout levels ($t(478) = -0.92$, $p > .05$). The study contributes to the existing body of knowledge and offers recommendations to polytechnic management, regulatory bodies, and government on policies and strategies to mitigate burnout among academic staff.*

Keywords: job stress, burnout, academic staff, polytechnics, Southwest Nigeria

INTRODUCTION

Burnout is characterized as a syndrome resulting from prolonged or repeated stress, manifesting as emotional exhaustion, depersonalization, and reduced personal accomplishment (Agyapong,

Obuobi, Burback, & Wei, 2022; Maslach & Leiter, 2017). Emotional exhaustion denotes mental or physical fatigue at work, depersonalization reflects detached or cynical attitudes toward colleagues and job responsibilities, and reduced personal accomplishment indicates diminished pride in professional achievements. Burnout among academic staff is a growing concern in Nigeria, with reported cases of lecturers experiencing health crises, disengagement, and poor work performance, particularly in polytechnics where academic staff undertake both theoretical and practical teaching (Aina & Adeleke, 2018; Letam, 2023).

Job stress is defined as harmful emotional and physical responses arising from a mismatch between job demands and an individual's capabilities, resources, or needs (World Health Organization, 2020). It results from workplace factors such as role overload, interpersonal conflict, role ambiguity, low salaries, and lack of motivation (Neall & Tuckey, 2014; Babatunde, 2013; Conley & You, 2014). Prolonged or uncontrolled job stress is a significant precursor to burnout (World Health Organization, 2019). Previous studies have established a link between job stress and burnout among health sector workers and university lecturers (Nwosu, Ossai, & Achor, 2020; APA, 2021; Letam, 2023). However, there is a paucity of research examining job stress and burnout among academic staff of polytechnics in Southwest Nigeria, where the dual demands of theoretical and practical instruction may heighten susceptibility to stress and subsequent burnout (Ofoegbu & Nwadiani, 2006).

Statement of the Problem.

Burnout in the workplace often stems from continuous exposure to demanding and emotionally distressing working conditions. Among academic staff, burnout manifests as emotional, mental, or physical exhaustion, leading to adverse outcomes such as health crises, depressive disorders, mental distress, insomnia, and reduced job satisfaction (Leiter & Maslach, 2008; Yao, Yu, Ai, & Song, 2015). At the family level, burnout contributes to work-life imbalance, resulting in strained relationships and uninvolved parenting. In the workplace, it leads to dissatisfaction, increased absenteeism, job turnover, and diminished organizational engagement and efficiency (Yang, Liu, Zhang, & Duan, 2017; Nwosu et al., 2020).

The demanding nature of academic work in polytechnics, characterized by heavy teaching and practical workloads, administrative responsibilities, and high expectations from students and institutions, significantly contributes to job stress (Dishon-Berkovits, 2018). Factors such as job demands, lack of control over the work environment, interpersonal conflicts, and role ambiguity have been identified as key stressors (Sermaan, Nater, Heinzer, Haba Rubio, & Vlerick, 2023; Ofoegbu et al., 2006). Despite the high prevalence of burnout reported in other sectors (e.g., above 70% among health workers and university lecturers; Nwosu et al., 2020; APA, 2021; Letam, 2023), there is limited research on job stress as a predictor of burnout among polytechnic academic staff in Southwest Nigeria.

The unique structure of polytechnics as technical and vocational education and training (TVET) institutions, requiring both theoretical and practical instruction, likely exacerbates job stress,

making academic staff more vulnerable to burnout compared to their university counterparts. This study addresses this gap by examining the influence of job stress on burnout among academic staff of polytechnics in Southwest Nigeria.

Objective of the Study.

The general objective of this research is to investigate the influence of job stress on burnout among academic staff of polytechnics in Southwest Nigeria.

The specific objectives are to:

i. Determine the level of job stress among academic staff of polytechnics in Southwest Nigeria.
ii. Assess the level of burnout among academic staff of polytechnics in Southwest Nigeria.
iii. Examine the significant influence of job stress on burnout among academic staff of polytechnics in Southwest Nigeria.
iv. Compare burnout levels between male and female academic staff of polytechnics in Southwest Nigeria in relation to job stress.

Significance of the Study.

This study is significant as it investigates the influence of job stress on burnout among academic staff in polytechnics, an area of growing concern in higher education. The findings will contribute to the academic literature by providing empirical evidence on how job stress affects lecturers' well-being in the context of polytechnics. Given the limited research on burnout among polytechnic academic staff, this study fills a critical gap by focusing on the unique stressors faced in institutions. The study holds practical implications for polytechnic administrators and policymakers. By identifying key sources of job stress, such as workload and interpersonal conflicts, institutions can develop targeted interventions to reduce stress and prevent burnout. Such measures may enhance job satisfaction, improve productivity, and reduce turnover rates among academic staff. For lecturers, the findings provide insights into stress-related factors affecting their professional well-being, empowering them to adopt coping strategies and advocate for supportive work environments. A healthier work environment benefits lecturers and improves the quality of education delivered. Furthermore, the study may inform organizational leadership on policies to manage workload and foster a supportive workplace, contributing to a more effective academic workforce.

METHODS

Research Design.

This study employs a descriptive research design to investigate the influence of job stress on burnout among academic staff of polytechnics in Southwest Nigeria. The descriptive approach is appropriate as the variable of interest, job stress, is not directly manipulated by the researcher. A multi-stage sampling procedure is utilized to select participants from the population of academic staff in polytechnics across Southwest Nigeria, ensuring representativeness and alignment with the study's objectives.

Population and Sample.
The population for this research comprises all academic staff of government-owned polytechnics in Southwest Nigeria, spanning the six states of Ondo, Ekiti, Osun, Oyo, Ogun, and Lagos. A sample of 480 academic staff members is selected, determined as an acceptable sample size for a population exceeding 25,000 based on the Krejcie and Morgan sample size table. The multi-stage sampling procedure involves three stages:(1) total enumeration to select all government-owned polytechnics in the six Southwestern states; (2) simple random sampling to select one federal and one state-owned polytechnic from each state, resulting in 12 polytechnics; and (3) purposeful sampling to select 40 academic staff members from each of the 12 polytechnics, totaling 480 participants. This procedure ensures that participants are representative of the 25 government-owned polytechnics in Southwest Nigeria.

Data Collection Instruments.
The research instrument is a questionnaire comprising two relevant sections. Section A collects demographic information, including gender and age, to contextualize the findings. Section B includes the Job-Related Tension Index (JRTI), developed by Kahn, Wolfe, Quinn, Snock, and Rosenthal (1964), to assess job stress among participants. The JRTI measures dimensions of job-related tension, such as workload, role ambiguity, and resource inadequacy, using a 5-point Likert-type scale (Never, Rarely, Sometimes, Rather Often, Nearly All the Time). Section C contains the Maslach Burnout Inventory (MBI), developed by Maslach and Jackson (1986), to measure burnout, the dependent variable. The MBI assesses three dimensions of burnout emotional exhaustion, depersonalization, and personal accomplishment using a 7-point Likert-type scale (Never, A Few Times a Year or Less, Once a Month or Less, A Few Times a Month, Once a Week, A Few Times a Week, Every Day).

Data Collection Procedure.
Informed consent is obtained from all participants after they are informed of the study's purpose and significance. With the assistance of research assistants, self-administered questionnaires (JRTI and MBI) are distributed to the 480 participants, accompanied by clear instructions for completion. Participants are provided sufficient time to respond, and their privacy and confidentiality are ensured. Assistance and clarification are offered as needed to facilitate accurate responses.

Data Analysis
Data are scored and analyzed using appropriate statistical tools. Descriptive statistics, including frequencies, means, and standard deviations, are computed to summarize the characteristics of job stress and burnout. Inferential statistics, specifically correlation analysis, are conducted to examine the relationship between job stress and burnout. A simple linear regression analysis is performed to assess the influence of job stress on burnout. An independent samples t-test is used to compare burnout levels between male and female academic staff in relation to job stress. Data analysis is conducted using the Statistical Package for the Social Sciences (SPSS), with statistical significance set at $p < 0.05$.

Ethical Considerations

The study upholds ethical standards by ensuring participants' rights and confidentiality. Informed consent is obtained, and participants are informed of their right to withdraw from the study at any time. Data are aggregated and anonymized to protect individual respondents' privacy before reporting.

RESULTS

Hypothesis Testing

Hypothesis One: There will be a significant influence of job stress on burnout among polytechnic lecturers in Southwest Nigeria.

Table 1: Independent t-Test Results Showing the Influence of Job Stress on Burnout among Polytechnic Lecturers in Southwest Nigeria

Group	n	Mean Burnout Score	SD	t(478)	p
High Job Stress	298	28.52	5.72	-5.26	< .01
Low Job Stress	182	19.68	4.57		

Note: SD = Standard Deviation; p < .01 indicates statistical significance at the 0.01 level (2-tailed).

Table 1 displays the results of an independent t-test comparing burnout levels between lecturers with high (n = 298) and low (n = 182) job stress. Lecturers with high job stress reported a mean burnout score of 28.52 (SD = 5.72), while those with low job stress reported a mean of 19.68 (SD = 4.57). The t-test revealed a significant influence of job stress on burnout, $t(478) = -5.26$, $p < .01$, indicating that lecturers experiencing high job stress exhibit significantly higher burnout levels than those with low job stress. Thus, Hypothesis One was supported.

Hypothesis Two: Job stress and organizational justice will jointly predict burnout among polytechnic lecturers in Southwest Nigeria.

Table 2: Summary of Multiple Regression Analysis Examining the Joint Predictive Influence of Job Stress and Organizational Justice on Burnout among Polytechnic Lecturers in Southwest Nigeria

Predictors	β	t	p	R	R^2	F(2, 497)	p
Job Stress	0.64	3.26	< .01				
Organizational Justice	-0.68	-3.02	< .01				
Model Summary				.42	.246	3.86	< .01

Note: β = Standardized regression coefficient; t = t-value; p < .01 indicates statistical significance at the 0.01 level (2-tailed); R^2 = .246 indicates that 24.6% of the variation in burnout is explained by the model.

Table 2 presents the results of a multiple regression analysis examining the joint predictive influence of job stress and organizational justice on burnout. The model was significant ($R^2 = .246$, $F(2, 497) = 3.86$, $p < .01$), with job stress ($\beta = 0.64$, $t = 3.26$, $p < .01$) contributing significantly to the prediction of burnout. The results indicate that job stress and organizational justice jointly account for approximately 24.6% of the variation in burnout among polytechnic lecturers. The significant contribution of job stress supports its role as a key predictor of burnout. Thus, Hypothesis Two was supported.

Hypothesis Three: There will be a significant difference in burnout among male and female academic staff of polytechnics in Southwest Nigeria.

Table 6: Independent t-Test Results Examining Sex Differences in Burnout among Polytechnic Lecturers in Southwest Nigeria

Sex	n	Mean Burnout Score	SD	t(478)	p
Male	297	34.73	8.31	-0.92	> .05
Female	183	32.94	7.59		

Note: SD = Standard Deviation; $p > .05$ indicates no statistical significance at the 0.05 level (2-tailed).

Table 3 shows the results of an independent t-test examining sex differences in burnout. Male lecturers (n = 297) reported a mean burnout score of 34.73 (SD = 8.31), while female lecturers (n = 183) reported a mean of 32.94 (SD = 7.59). The t-test indicated no significant difference in burnout between male and female lecturers, $t(478) = -.92$, $p > .05$. Thus, Hypothesis Three was not supported.

DISCUSSION

This study examined the influence of job stress on burnout among academic staff of polytechnics in Southwest Nigeria. The results of Hypothesis One revealed a significant influence of job stress on burnout, with academic staff reporting high job stress experiencing increased burnout levels. This finding aligns with Ogungbamila (2016), who reported a significant positive relationship between occupational health stress and job burnout, noting that job stress significantly predicted burnout, with higher stress levels corresponding to elevated burnout.

The observed relationship may be attributed to the stressors inherent in the academic environment of Nigerian polytechnics. Osuji (2012) corroborated this, highlighting the negative imbalance in the lecturer-student ratio in Nigerian tertiary institutions, which exacerbates stress. Similarly, Otegbeye (2015) identified factors such as handling difficult students, inadequate lecture theatres, insufficient teaching aids, excessive workload, emotional stress, and lack of social support as contributors to stress and burnout among faculty members.

The findings suggest that a misfit between an individual and their job role can lead to job-related stress, resulting in emotional depletion and burnout. Kokkinos (2012) supported this, finding that cynicism among employees is closely tied to environmental stressors. The present study provides insight into the linear relationship between job stress and burnout, underscoring the need for further research to explore mediating factors, such as work engagement and organizational support, that may influence this relationship.

The results of Hypothesis Two indicated that job stress and organizational justice jointly predict burnout, with job stress making a significant contribution ($\beta = 0.64$, $t = 3.26$, $p < .01$). This finding is consistent with Broderick, Vaughan, McNicholas, and Feeney (2023), who suggested that burnout is influenced by a composite of work-related factors. The significant role of job stress in this joint model reinforces its importance as a predictor of burnout among polytechnic academic staff.

Hypothesis Three revealed no significant gender difference in burnout among academic staff, with male and female lecturers reporting similar burnout levels ($t(478) = -0.92$, $p > .05$). This finding contrasts with some studies, such as Adebayo, Osagu & Ogunleye Table 6 shows the results of an independent t-test examining sex differences in burnout. Male lecturers ($n = 297$) reported a mean burnout score of 34.73 ($SD = 8.31$), while female lecturers ($n = 183$) reported a mean of 32.94 ($SD = 7.59$). The t-test indicated no significant difference in burnout between male and female lecturers, $t(478) = -.92$, $p > .05$. Thus, Hypothesis Three was not supported.The lack of gender difference in this study may be attributed to similar working conditions faced by both male and female lecturers in polytechnics, such as an average lecturer-student ratio of 1:55, exceeding the recommended 1:30 (Saka, Kamal, & Alabi, 2018).

CONCLUSION

This study concludes that job stress significantly influences burnout among academic staff of polytechnics in Southwest Nigeria. A misfit between an individual's capabilities and job demands accentuates emotional depletion, contributing to burnout. The findings highlight the critical role of workplace stressors, such as excessive workload and inadequate resources, in exacerbating burnout.

Additionally, the absence of significant gender differences in burnout suggests that both male and female lecturers are equally affected by the demanding conditions in polytechnics. Addressing job stress is essential to mitigate burnout and enhance academic staff's well-being and performance.

Recommendations

1. Institutions should implement measures to reduce job stress among academic staff to promote efficiency and positive job outcomes. This can be achieved by ensuring congruence between lecturers' skills and job requirements, minimizing person-job misfit.
2. Institutions should adhere to the recommended lecturer-student ratio of 1:30 to reduce workload-related stress.

3. Polytechnics with staff shortages should prioritize recruitment to alleviate excessive workloads.
4. The National Board for Technical Education (NBTE) should enforce minimum standards for personnel and student enrollment to prevent overburdening academic staff.
5. Where excessive workload is unavoidable, institutions should provide workload allowances to compensate affected staff.
6. Training and development programs should be implemented to enhance lecturers' skills, enabling them to meet job demands effectively and reducing stress associated with role ambiguity or inadequacy.
7. The government should support polytechnics by providing necessary facilities to create a conducive work environment, thereby alleviating stress and preventing burnout.

Limitations of the Study

This study provides valuable insights into the influence of job stress on burnout among academic staff of polytechnics in Southwest Nigeria; however, several limitations must be acknowledged. Firstly, the study relied on a descriptive survey design, which limits the ability to establish causality between job stress and burnout. While significant correlations and predictive relationships were observed, experimental or longitudinal designs could better clarify the causal dynamics. Secondly, the use of self-reported measures, such as the Job-Related Tension Index (JRTI) and Maslach Burnout Inventory (MBI), may introduce response biases, including social desirability or recall inaccuracies, potentially affecting the reliability of the findings. Thirdly, the study focused on academic staff from government-owned polytechnics in Southwest Nigeria, which may limit the generalizability of the results to private polytechnics or other regions of Nigeria with differing institutional structures or working conditions. Fourth, the study did not explore potential mediating or moderating variables, such as work engagement, social support, or coping strategies, which could influence the relationship between job stress and burnout. Finally, the sample, while representative of the selected polytechnics, may not fully capture variations in job stress across different academic disciplines or seniority levels within the polytechnic system.

Future Research Focus

Future research should address the identified limitations to enhance understanding of the relationship between job stress and burnout among polytechnic academic staff. Longitudinal studies are recommended to examine the temporal dynamics of job stress and its impact on burnout, enabling a clearer understanding of causality and progression over time. Experimental designs, such as interventions to reduce workplace stressors, could provide insights into effective stress management strategies. Additionally, incorporating objective measures, such as physiological indicators of stress (e.g., cortisol levels) or institutional records of workload, could complement self-reported data and reduce bias.

Expanding the scope to include private polytechnics and other regions of Nigeria would enhance the generalizability of findings, accounting for variations in institutional policies and cultural contexts. Further research should explore mediating factors, such as work engagement or

organizational support, and moderating factors, such as coping mechanisms or personality traits, to elucidate their role in the stress-burnout relationship.

Finally, investigating the influence of specific job stressors, such as workload versus role ambiguity, across different academic disciplines or career stages could provide a more nuanced understanding of burnout in polytechnic settings.

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Acknowledgement

We wish to express our sincere gratitude to the **Tertiary Education Trust Fund (tetfund)** for providing the **financial support** that made this research possible. Their commitment to advancing academic research in Nigeria is deeply appreciated and has played a vital role in the successful completion of this study.

We are equally thankful to the management and academic staff of the polytechnics across South West Nigeria who participated in the study. Their cooperation, openness, and time were invaluable.

We also appreciate the institutional support received from my home institution Ekiti State Polytechnic, Isan Ekiti, whose encouragement and administrative backing created an enabling environment for this work.

To all colleagues and mentors who offered insight, guidance, or encouragement at various stages of this project, we are grateful. Your contributions whether through conversations, feedback, or critical review have added depth and clarity to this work.

Finally, we extend heartfelt thanks to our families for their steady support, patience, and understanding throughout the duration of this research.