

RELATIONSHIP BETWEEN JOB DEMANDS, JOB RESOURCES, WORK ENGAGEMENT AND JOB PERFORMANCE OF METALWORK EMPLOYEES IN UNIVERSITIES IN SOUTH-SOUTH, NIGERIA

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Abstract

The study investigated the relationship between job demands, job resources, work engagement and job performance of Metalwork employees in universities in South-South, Nigeria. Two purposes with corresponding two research questions were answered and two null hypotheses were formulated. The study employed Correlational research design. The population for the study was 87 Metalwork employees. The instrument for data collection was a structured questionnaire. The instrument was validated by five experts. The instrument reliability coefficient was determined using Cronbach alpha reliability technique. The reliability coefficients include, job demand and resources = 0.83, employees work engagement = 0.69, job performance = 0.67 with overall coefficient of 0.73. with a total of 62 items on a 5-point rating scale, ranging from never = 1, rarely = 2, some-times = 3, often = 4 and very often = 5. Data collected were analyzed using Pearson Product Moment Correlation, while, Regression analysis was used to test the null hypotheses at 0.05 level of significance. The findings of the study revealed that a very weak relationship exist between job demands and job performance of metalwork employees, very weak relationship also exists between job resources and work engagement of metalwork employees. The study also revealed that job demands does not have significant relationship with work engagement, and positive correlation does not exist between job demands and resources of metalwork employees. It was therefore recommended among others that TVET institutions should provide resources to foster employee growth to increase employee engagement and job performance. Institutions should also increase the cooperation among employees.

Keywords: Job Demands, Job Resources, Work Engagement, Job Performance, Metalwork Technology and Metalwork Employees.

Introduction

Organizations in recent years have experienced increasing economic pressures, technological changes, and growing expectations for improved productivity and performance. As a result, many institutions now pay greater attention to internal strategies that can improve employee effectiveness rather than depending solely on external innovations or reforms (Poripo, 2025), (Youdiowei, 2024) and (Buchner, 2007). Employees have therefore become central to organizational success because their level of commitment, initiative, and performance directly influences institutional productivity. In modern workplaces, proactive employees are highly valued because they actively seek ways to improve their work environment and enhance their job experiences. According to Tims, et al, (2012), proactive employees often make deliberate efforts to adjust aspects of their jobs to better align with their interests, values, and professional goals. Such efforts may involve improving workplace relationships, modifying work approaches, or introducing creative solutions that make work more meaningful and productive among Metalwork employees.

Metalwork Technology is a specialized area that involves the design, fabrication, processing, and maintenance of metal products using different industrial techniques and tools. Oranu (2003) described Metalwork Technology as a field that includes practical operations such as welding, machining, forging, foundry work, and fabrication. Similarly, Poripo, (2025), Poripo, (2024) & Aluwong (2004) noted that the discipline applies scientific and technical knowledge to solve practical industrial problems. In Nigerian universities, particularly those in the South-South region, Metalwork Technology programmes are designed to equip students with both theoretical knowledge and practical skills needed for industrial and technological development. According to the Federal Republic of Nigeria (FRN, 2014), graduates of Metalwork Technology should possess the competence required to design, process, and fabricate metal products that meet

industrial standards. The programme therefore emphasizes practical competence, technical expertise, and effective workplace performance.

Metalwork employees in universities, including lecturers and workshop technicians, are responsible for a wide range of activities connected to teaching, production, and maintenance. Their duties include supervising workshop practices, conducting practical demonstrations, maintaining equipment, fabricating products, and guiding students during technical exercises (Poripo, 2025). These employees work with metals such as steel, aluminum, copper, and iron to produce different components and structures using techniques such as welding, cutting, machining, forging, and assembling. Yakubu (2014) observed that competencies in fabrication, welding, machining, and metal finishing are highly important because they create employment opportunities and contribute to industrial development. Dike (2009) also emphasized the need for skilled personnel who can effectively handle modern equipment and technologies within the metalworking industry. In addition, Ogundele (2010) stressed that universities require qualified and adaptable metalwork employees who can cope with increasing technological complexity. These responsibilities place considerable demands on employees and highlight the importance of providing adequate support and resources that can improve their effectiveness and performance.

The interaction between job demands and job resources has become an important issue in organizational studies because both factors strongly influence employee wellbeing and productivity. Job demands refer to the physical, psychological, social, and organizational aspects of work that require continuous effort from employees (Poripo, 2025) and (Beutell, 2010). In the context of Metalwork Technology, these demands may include heavy workloads, workshop supervision, administrative duties, equipment maintenance, and pressure to meet institutional expectations. When job demands become excessive, they can result in stress, exhaustion, burnout, and reduced engagement. Peeters et al. (2005) explained that prolonged exposure to high job demands can negatively affect employees' physical and mental health, thereby reducing productivity and increasing absenteeism. Similarly, Schaufeli and Bakker (2004) argued that

excessive work demands often drain employees' energy and may cause mental withdrawal from work as a coping mechanism.

On the other hand, job resources refer to the physical, organizational, psychological, and social factors that help employees achieve work goals, reduce stress, and support growth and development. Such resources may include organizational support, training opportunities, autonomy, adequate facilities, effective communication, and positive relationships with supervisors and colleagues. According to Hobfoll (2002), job resources are important because they motivate employees and encourage professional growth and productivity. Schaufeli and Bakker (2004) further explained that the availability of adequate job resources increases employee engagement by improving motivation, resilience, and commitment to work. In university environments where employees often face demanding responsibilities, access to sufficient job resources is necessary for maintaining both productivity and psychological wellbeing.

Closely connected to job resources is the concept of work engagement, which refers to the level of enthusiasm, dedication, and involvement employees demonstrate toward their work. Schaufeli et al. (2006) described work engagement as a positive and fulfilling state characterized by vigor, dedication, and absorption. Vigor refers to high levels of energy and resilience, dedication reflects enthusiasm and commitment to work, while absorption involves being fully concentrated and deeply involved in work activities. Employees who are highly engaged in their work tend to display stronger motivation, greater commitment, and improved productivity. May, et al. (2004) further explained that engaged employees are emotionally and cognitively connected to their work and often experience satisfaction while carrying out their duties. Xanthopoulou, et al, (2009) found that engaged employees are more likely to perform effectively and contribute positively to organizational growth. Likewise, Bakker, et al, (2012) reported that work engagement predicts both in-role and extra-role performance among employees. In many universities within South-South Nigeria, metalwork employees appear to experience low levels

of work engagement due to unfavorable working conditions. Factors such as inadequate facilities, poor remuneration, excessive workloads, limited opportunities for professional development, and insufficient organizational support contribute significantly to employee dissatisfaction and disengagement (Demerouti, Bakker, & Gevers, 2015; Reijseger, et al, 2017). This situation creates challenges for both employees and institutions because disengaged workers are less likely to perform effectively or contribute positively to organizational goals. At the same time, universities continue to face difficulties in maintaining quality technical education while dealing with limited resources and increasing staff responsibilities for better job performance.

Job performance is therefore an important concept because it reflects the extent to which employees effectively carry out assigned duties and contribute to organizational objectives. Rotundo and Sackett (2002) identified task performance, contextual performance, and counterproductive work behavior as the major dimensions of job performance. In Metalwork Technology, job performance may involve effective teaching, practical demonstrations, equipment maintenance, workshop supervision, and successful fabrication of products (Poripo, 2024 & 2024). However, performance is influenced not only by employees' effort and competence but also by external factors such as institutional support, workplace facilities, student cooperation, and economic conditions (Guidice & Mero, 2012; Mohamed & Anisa, 2013). Consequently, improving job performance requires a comprehensive approach that addresses both employee behavior and workplace conditions. However, job resources remain essential in helping employees manage demanding tasks and maintain high levels of performance. Houkes et al, (2001) observed that employees who receive adequate support and resources are more likely to remain committed to their organizations and achieve their work goals. This study therefore examines the relationship among job demands, job resources, work engagement, and job performance among metalwork employees in universities in South-South Nigeria.

Statement of the Problem

The objective of Metalwork Technology in Nigerian universities, including those in the South-South region, is to produce competent teachers and technologists equipped with both theoretical and practical knowledge to design, process, and fabricate metal products. The provision of appropriate job resources and the presence of competent and skilled metalworkers with adequate work engagement and job performance are necessary to achieve this goal. Employees don't seem to be very engaged in their work, and this can result in subpar performance. This might have detrimental effects on students attending universities in the South-South.

The pervasive issue of graduate unemployment, coupled with the prerequisite for additional training, particularly in Metalwork Technology, before employment in universities, raises concerns regarding the interplay between job demands, resources, work engagement, and job performance among Metalwork employees in South-South Nigeria. Of particular concern is the apparent lack of understanding among Metalwork Technology employees in universities in this region regarding their job demands, expectations, and unavoidable stressors, leading to stressful experiences with detrimental effects on work engagement, motivation, and job performance. Failure to address this issue may perpetuate the graduation of inadequately skilled Metalwork Technology graduates from universities in South-South Nigeria. Therefore, the central problem of this study revolves around how to mitigate the weak and negative relationships observed among Metalwork Technology employees concerning job demands, resources, and work engagement, aiming to enhance job performance among Metalwork Technology employees in South-South Nigeria.

Purpose of the Study

The general purpose of this study was to investigate the relationship between job demand resources, work engagement and job performance of metalwork employees in universities in South-South, Nigeria. Specifically, the study determined the relationship between:

1. job demands and job performance of metalwork employees in Universities in South-South, Nigeria.
2. job resources and work engagement of metalwork employees in Universities in South-South, Nigeria.

Research Questions

The following research questions guided the study:

1. What is relationship between job demands and job performance of metalwork employees in universities in South-South, Nigeria?
2. What is the relationship between job resources and work engagement of metalwork employees in universities in South-South, Nigeria?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. Positive correlation does not exist between job demands and job performance of metalwork employees in universities in South-South, Nigeria.
2. significant correlation does not exist between job resources and work engagement of metalwork employees in universities in South-South, Nigeria.

Methodology

A correlational research design was adopted for the study. The research was conducted in selected TVET institutions offering Metalwork Technology in South-South, Nigeria, namely Bayelsa State Institute of Entrepreneurship and Vocational Training Elebele, Niger Delta University, Amassoma; Ignatius Ajuru University of Education, Port Harcourt; Rivers State University, Port Harcourt; and the University of Uyo, Akwa Ibom State. The population of the study comprised 87 metalwork employees, including 64 males and 13 females. Data were collected using a structured questionnaire. The instrument was validated by five experts from the

Department of Industrial Technical Education, University of Nigeria, Nsukka. Reliability was established using Cronbach's alpha, yielding coefficients of 0.83. The Pearson Product Moment Correlation was used to analyse the data. The correlation's strength was deduced from the absolute value of r by applying the rules proposed by Evan (1996): Strong relationship = 0.60 - 0.79, Very Strong relationship = 0.80 - 1.00, Moderate relationship = 0.40 - 0.59, Very Weak relationship = 0.00 - 0.19, Weak relationship = 0.20 - 0.39, and Very Weak relationship = 0.40 - 0.59. The null hypotheses were tested using regression analysis with a significance threshold of 0.05. P-values were used to make decisions about the null hypotheses: those with p-values ≤ 0.05 were rejected, while those with p-values > 0.05 were accepted.

Results

Research Question 1

What is the correlation between job demands and job performance among metalwork employees in universities in South-South, Nigeria?

Table 1: The relationship between job demands and job performance of metalwork employees in universities in South-South, Nigeria

		JD	JP	DECISION
JD	Pearson Correlation	1	-.121	Very Weak
	Sig. (2-tailed)		.196	
JP	Pearson Correlation	-.121	1	
	Sig. (2-tailed)	.196		
	N	87	87	

Key: JD= Job Demand, JP= Job Performance and N= Number of respondents.

Data in Table 1 reveals the correlation between job demands and job performance among metalwork employees in the university context. Table 1 illustrates a marginal positive correlation between job demands and job performance, indicating a very weak association. With a correlation coefficient of -0.121, the relationship between job demands and job performance is minimal. In essence, this slight positive correlation suggests that as job demands rise for metalwork employees, there may be a slight uptick in job performance, albeit to a negligible extent. Conversely, a decrease in job demands may result in a minor decrease in job performance among these employees. Thus, fluctuations in job demands are likely to correspond with subtle variations in job performance among metalwork employees. It is important to remember that there is very little association between job demands and job performance, as indicated by the correlation coefficient's magnitude of -0.121. This suggests that other factors beyond job demands likely exert a more significant influence on job performance among metalwork employees. Consequently, while job demands may play a role, they alone may not strongly determine the level of job performance observed within this context.

Research Question 2

What is relationship between job resources and work engagement of metalwork employees in universities in South-South, Nigeria?

Table 2: The relationship between job resources and work engagement of metalwork employees in universities in South-South, Nigeria

		JR	WE	DECISION
JR	Pearson Correlation	1	-.121	Very Weak
	Sig. (2-tailed)		.196	
WE	Pearson Correlation	-.121	1	
	Sig. (2-tailed)	.196		
	N	87	87	

Key: JR= Job Rources, WE= Work Engagemenr, and N= number of respondents.

The relationship between job resources and work engagement among metalworkers is demonstrated by the data in Table 2. The findings show that, among metalworkers working in a university setting, there is a marginally positive link between job resources and work engagement (Table 2). Nonetheless, the -0.121 correlation coefficient value indicates that there is very little link between work engagement and job resources. Interpreting this positive correlation, it can be inferred that as job resources available to metalwork employees increase, their level of work engagement may also exhibit a slight increase. Conversely, a decrease in job resources might correspond with a minor decrease in work engagement among these employees. Essentially, this implies that variations in job resources could marginally influence the degree of work engagement demonstrated by metalwork employees. It is noteworthy, however, that the correlation coefficient's size (-0.121) suggests that there is little to no relationship between job resources and work engagement. As a result, even though job resources might have an impact on work engagement, it seems to be very little. This implies that factors other than job resources might have a greater impact on the degree of work engagement that metalworkers report.

Hypothesis 1

Positive correlation does not exist between job demands and job performance of metalwork employees in universities in South-South, Nigeria.

Table 3: The relationship between job demands and job performance of metalwork employees in universities in South-South, Nigeria.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.077	1	.077	1.693	.196 ^b
	Residual	5.116	85	.045		
	Total	5.193	86			

Key: DF=Degree of Freedom, F= Calculated Value, Sig= Significance

a. Dependent Variable: JP= Job Performance

b. Predictors: (Constant), JD= Job Demand

The results in Table 3, which holds that there is no positive link between job demands and job performance among metalworkers in South-South Nigerian institutions, are shown in Table 8. Regression analysis provides a coefficient (β) of -0.12, a t-value of -1.301, and a p-value

of 0.196 ($p > 0.05$) for the link between job demands and job performance. It is possible to conclude that there is no statistically significant positive association between metalwork workers' job performance and demands and their non-significant p-value of 0.196. This conclusion is further supported by the computed F-value of 1.693, with degrees of freedom (1,95) and a p-value of 0.196. Therefore, it can be concluded that among metalworkers employed by South-South Nigerian colleges, there is no discernible positive association between job demands and job performance. The results of the research support Hypothesis 2, as job demands only explain 1.5% of the variation in the connection between job performance and job demands among metalworkers.

Hypothesis 2

Positive correlation does not exist between job resources and work engagement of metalwork employees in universities in South-South, Nigeria.

Table 4: The relationship between job resources and work engagement of metalwork employees in universities in South-South, Nigeria.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.007	1	.007	.102	.750 ^b
	Residual	7.497	85	.066		
	Total	7.504	86			

Key: DF=Degree of Freedom, F= Calculated Value, Sig= Significance

a. Dependent Variable: WE= Work Engagement

b. Predictors: (Constant), JR= Job Resources

The results in Table 4, which states that there is no positive link between job resources and work engagement among metalworkers in South-South Nigerian institutions, are presented in Table 9. Regression analysis shows a coefficient (β) of 0.036, a t-value of 0.320, and a p-value of 0.750 ($p > 0.05$) for the association between job resources and work engagement. When interpreting these findings, it is possible to conclude that there is no statistically significant positive link between job resources and work engagement among metalwork employees, as indicated by the non-significant p-value of 0.750. This result is further supported by the computed F-value of 0.102, with degrees of freedom (1,95) and a p-value of 0.750.

Consequently, it may be concluded that there is no appreciable positive correlation between job resources and work engagement among metalworkers hired by South-South Nigerian institutions. Given the data, it is possible to infer that Hypothesis 2 is accepted, as job resources only account for 0.1% of the variation in the relationship between metalwork employees and work engagement.

Findings of the Study

The study revealed several significant findings regarding the research questions and null hypotheses:

1. A very weak correlation exists between job demands and job performance of metalwork employees in universities in South-South, Nigeria.
2. A very weak correlation exists between job resources and work engagement of metalwork employees in universities in South-South, Nigeria.
3. There is no positive correlation between job demands and job performance of metalwork employees in universities in South-South, Nigeria.
4. There is no positive correlation between job resources and work engagement of metalwork employees in universities in South-South, Nigeria.

Discussion of the Findings

A very weak relationship has been observed between job demands and job performance among metalwork employees in universities in South-South, Nigeria. The results are consistent with those of Poripo, (2025), Youdiowei, (2024), Van Wingerden et al. (2016), who likewise found a negligible correlation between job demands and job performance. The present study's findings also align with research by Tims et al. (2013) among workers in chemical plants, where it was discovered that job demands had no discernible effect on work engagement or job performance. In a similar vein, Poripo, (2025), Youdiowei, (2024) and Gordon et al. (2018) found that work demands had no discernible impact on performance and work engagement. There may be a discrepancy between expectations and realities in the workplace, which explains the weak relationship between job demands and job performance among metalworkers. This

suggests that even in the presence of job demands, they could not always result in improved job performance for metalwork employees.

A very weak relationship has been identified between job resources and work engagement in the study. Poripo, (2025), Youdiowei, (2024) and Tims et al. (2013) also observed a negligible association between job resources and work engagement, which is consistent with the results of this study. The lack of significance in this relationship may stem from the individual capacities of employees to manage their tasks effectively. The findings resonate with Bakker and Schaufeli (2004), who suggested that the absence of job resources could make it challenging for employees to cope with high job demands. Consequently, employees may become disengaged as they attempt to protect themselves against the inadequacy of resources in their work environment.

Similarly, a very weak relationship has been observed between job resources and job performance among metalwork employees in universities in South-South, Nigeria. This finding aligns with the results reported by Tims et al. (2015) and Mohd et al. (2023), where the presence of job resources did not significantly contribute to higher job performance within their respective specialized areas. Job resources may inadvertently disrupt the balance of technical tasks, leading to uncertainty and reduced performance among metalwork employees. The results of Hunter and Thatcher's (2007) survey of banking staff members at a major American bank, which revealed a connection between job stress and performance, lend credence to this interpretation. In a similar vein, Poripo, (2025), Youdiowei, (2024), Schaufeli and Bakker (2004) stressed that a reduction in employment resources, specifically in the form of organisational support and growth chances, may lower employees' overall level of work engagement. They also pointed out that employees' work commitment and performance may suffer from mild stress, which is frequently brought on by long workdays and monotonous duties.

Conclusion

There was a very weak association observed among work demand, work resource, employee engagement at work, and employee performance for university-based metalworkers

from the South-South area of Nigeria. The data collected for this study demonstrated clearly that work demand, work resources, employee engagement at work, and employee performance were not positively correlated (and therefore there was no positive association) among the subjects of this research.

Recommendations of the Study

Based on the outcomes of this study, the following recommendations were made:

1. Government and university management should make employee welfare and engagement a priority by ensuring that adequate resources are available and by creating a work environment that encourages healthy relationships among staff members.
2. Employers should encourage a stronger link between job demands and employee performance among metalwork staff.
3. Institutions should equip employees with the necessary resources and support systems that will enable them to improve their knowledge, skills, and professional development, thereby increasing their level of commitment and engagement through team work.

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