

Impact of Female Gender Leadership on Staff Engagement in Colleges of Education in Nigeria

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ABSTRACT

Gender stereotype affects institutional dynamics and gendered disparities as well as staff engagement. Underrepresentation of women in managerial roles can impact staff engagement, and this issue is understudied, especially in developing economies like Nigeria. There is a necessity to study this phenomenon in the context of Nigerian colleges of education. It is based on this assumption that the study set out to examine the impact of female gender leadership on staff engagement in Nigerian colleges of education. The study employed a quantitative methodology for gathering data, and a simple random sampling method was employed to prevent sample bias. The collated data was analysed using the hierarchical regression estimation method. Also, the researcher used Cronbach's alpha and exploratory factor analysis (EFA) for reliability and validity tests, respectively. The model estimations revealed that female gender perceptions, female gender restrictions, female gender demands, and female gender representation had positive and significant impacts on employee engagement in colleges of education in Nigeria. The Cronbach's alpha coefficient showed high reliability for all scale items, and the KMO and Bartlett's tests confirmed sample adequacy and goodness-of-fit. In line with work engagement theory, the study concluded that female gender leadership contributes significantly to employee engagement, with authentic, collaborative and supportive leadership fostering employee engagement. The study highlights the practical policy implications following the findings of the study.

Keywords: Gender perceptions, gender restrictions, gender demands, employee engagement, hierarchical regression.

INTRODUCTION

Gender gaps, stereotyping, and institutional segregation are the causes of women's underrepresentation in management and leadership positions, and they have a considerable influence on employee engagement. Work engagement theory is the foundation for comprehending why and how staff are motivated and committed (Banihani & Syed, 2017; Huang et al., 2022). Banihani and Syed (2017) highlighted three elements that constitute work engagement such as physical, emotional, and cognitive engagement. Cognitive engagement measures an employee's level of attention, interest, and focus at work (Kahn, 1990). Work engagement theory emphasizes the importance of work-life balance and leadership to enhance productivity and loyalty, (Huang et al., 2022).

Gendered inequalities, stereotyping, and institutional segregation are among the factors explaining the underrepresentation of females in management and leadership position in the majority of colleges of education in Nigeria. Females are poorly represented as the principal officers of colleges of education in Nigeria. For example, the principal officers of the colleges of education in Nigeria, has less than 25 percent of female occupying these leadership positions in the colleges. Such gendered formations are a symbol of gendered disparities, stereotyping, and segregation in the Nigerian college of education administration. There are some obstacles that affect female's representation in leadership within most institutions, and male have been deemed more competitive and goal-oriented to the point where female feel they must emulate their male counterparts

in order to be successful (Banihani & Syed, 2020; Apache Varon & Mello, 2020; Kovacová & Drahotsky, 2022).

The females in the colleges of education feel that they are undervalued, underrepresented, and their voices not being heard since gender affects their career advancement as well as career trajectories. Banihani and Syed (2017) warned that when people have been undervalued and underutilized, they have dull experiences. Women are underrepresented due to career problems owing to gender bias, which can stifle their likelihood of long-term prosperity as well as career fulfillment (Bull, Watson, Amin, & Carrington, 2021). In the same manner, Banihani and Syed (2017; 2020) assert that work engagement is non-universal and non-gender-neutral, and inequality regimes presuppose entrenched gender assumptions which may limit the role of women in management and leadership positions. Although there are general believe that institutions values diversity and inclusion, and also treats all employees with respect and fairness, fosters a growth-friendly environment, and prevents discrimination. Evidently, gendered composition of the principal officers in most colleges contradicts these claims since principal officers' composition can be used to proxy for females' engagement and representation in management and leadership positions (Huang et al., 2022; Sanhokwe, 2022).

Staff member engagement is critical in fostering productivity, commitment, and allegiance in an institution (Huang et al., 2022; Sanhokwe, 2022). The more staff are motivated in their job, the more efficiently they will perform in the job, and there is an increase in productivity when employers create high employee engagement (Otchere-Ankrah, 2022). A gendered workplace influences the high employee engagement in an institution. Gendered work engagement affects women due to gendered values, lower position jobs, and perceived power. Psychological factors like meaningfulness, safety, and availability can trigger engagement (Kahn, 1990), but institutions privilege the male staff and limit women's chances (Banihani & Syed, 2017). In this way, work engagement is gendered, as men are more physically, cognitively, and emotionally engaged (Banihani et al., 2013). However, task variety, job demands, and job resources are also influential in these psychological factors (meaningfulness, safety, and availability). Hameduddin and Lee (2022) found that job resources enable engagement via motivation, and increased demands without resources can lead to lower engagement and burnout. Thus, job resources or social support reduce the psychological costs of job demands and prevent burnout.

Institutional leadership and gender might mediate the relationship between these psychological consequences and therefore influence employee engagement. Huang et al. (2022) state that authentic leadership affects work engagement dimensions, namely cognitive, emotional, and physical, which in turn affect institutional citizenship behavior and task performance. Dwivedi et al. (2023) validate that psychological safety might be impacted by the absence of gender diversity and presence of representation within the leadership roles. Papangkorn et al. (2021) established that gender diversity at the leadership levels can contribute to the success of firms. Work culture and employee engagement were positively associated with transformational leadership (Malik et al., 2022; Islam et al., 2021).

Understanding how gender influences these psychological components is crucial for creating engaged institutions since stereotypes, administrative preferences, gender prejudice, and the underrepresentation of women in management and leadership roles can impact employee engagement. However, investigation into the gendered nature of leadership and work engagement is an underexplored area, especially in developing economies, creating a research gap. To address this research gap, more studies that focuses specifically on the gender lens in institutions leadership and its impact on employee engagement in developing economies is necessary. To the best knowledge of the researchers, no study has been carried out on this area in Nigeria. Understanding this perspective in the context of leadership of colleges of education in Nigeria, where there is high evidence of females' underrepresentation in leadership positions, is therefore of prime research interest. On this note, the study aims to examine the impact of female gender leadership on staff engagement in colleges of education in Nigeria.

LITERATURE REVIEW

Having a healthy work environment, providing training, and establishing HR practices to enhance the work passion of staff are all the means through which instructions can promote work engagement (Hamza et al.,

2021; Sanhokwe, 2022; Amir et al., 2022; Otchere-Ankrah, 2022). Huang et al. (2022) and Iddagoda et al. (2021) believe that employees participating in their job tend to perform well and be contented with work. The idea of work engagement also places the role of leaders in generating engagement at center stage, with authentic leadership forming a key component. Though gendered differences in institutions is the main concern for gendered organisation theory (Banihani & Syed, 2017; Zippel, 2019). This theory looks at how power relations, gender roles, and gender expectations shape the structure, practice, and culture of institutions (Crawford & Pini, 2011; Norman & Rankin-Wright, 2018; Armstrong et al., 2018). Gendered expectations and gender biases affect career pathways and job advancement in institutions. Bull et al. (2021) support the fact that staff's perceptions regarding working in institutions are influenced by the interaction of gender and other societal factors. Hart (2016) found systematic injustices can impede professional growth in STEM midcareer women faculty members.

Gendered work engagement considers the specific psychological contexts faced by women as opposed to men based on gendered norms, second-class responsibilities, and presumptions of authority (Banihani & Syed, 2020). Women's participation in the workplace may be affected by preconceptions and gender biases (Sathyanarayana & Nair, 2018). Psychological factors such as availability, safety, and meaningfulness can foster engagement (Kahn, 1990). Organizations often set high standards for the ideal employee, which confines the meaningfulness, safety, and availability of job opportunities for women (Banihani et al., 2013). Gendered psychological meaningfulness influences attitudes towards purpose and fulfillment in life among workers (Woods & Sofat, 2013; Setar et al., 2014; Ruslan et al., 2014). Psychological meaningfulness is an awareness that one's activities are valuable and significant. Psychological meaningfulness is often assessed using scales tapping perceptions of ratings of value and meaningfulness of work (Woods & Sofat, 2013). According to Banihani and Syed (2017), one stereotypic belief is that men are more advanced intellectually and emotionally compared to women, which leads to the undervaluation of female employees in their workplaces.

However, because males were perceived to be the only breadwinners in their families, they are presented with more meaningful jobs (Banihani and Syed, 2017). This contributes highly to males' career prospects and engagement. Cowie and Braun (2022) and Martikainen et al. (2022) argue that how one views oneself as being completed, having meaning, and feeling well overall can also be influenced by one's gender. According to Kolbe et al. (2020), psychological safety is a matter of feeling free to be oneself without fear of the effect on one's status, career, or self-concept. It might be challenging for women to enact their feminine traits when they are among traditionally masculine traits. Such gender issues as management behaviors and social presumptions can influence psychological safety. Injustice in the workplace, such as excessive workloads and promotions, can also cause lack of psychological safety (Dwivedi et al., 2023).

Gender discrimination in certain workplaces might also affect psychological safety. If women are continuously ignored or excluded for their ideas or contributions, they are less likely to feel comfortable speaking up. Psychological safety may also be impacted by gender-based communication preferences (Dwivedi et al., 2023; Walter & Faue, 2022). Gender may affect the psychological effect of being exposed to violence for a staff (Padmanabhanunni et al., 2017). Zhang et al. (2022) established that women's psychological safety can be seriously impaired by gender discrimination and sexual harassment of them in the workplace. Gender diversity and under-represented perspectives might impact psychological safety since underrepresented perspectives can make one feel less comfortable to voice concerns or share their thoughts (Dwivedi et al., 2023).

Psychological availability is the capacity to carry out tasks under the influence of one's own resources and manage both work and personal obligations. It frequently acts as a barrier for women (Syed & Banihani, 2017). Psychological availability may also be influenced by work-family conflicts (Matias et al., 2017). Slama et al. (2021) posit that effective communication and family support can empower people to cope with adversity without compromising their gendered psychological availability. Motivation and burnout prevention work closely with job resources and employee engagement. Psychological costs associated with demands of the job can be reduced, and burnout can be averted with the help of job resources or social support (Hameduddin & Lee, 2022). Involvement is achieved through mobilizing the physical, affective, and intellectual energies of the employees to do work activities that bring about works' relationships, personal presence, and active performance (Kahn, 1990). The relationship between HRM practices and staff involvement can be mediated by

socially learned gender roles. Psychological traits and men's and women's behaviors, which differentiate them in society, have been targets of research on employee engagement and HRM practices (Vuong & Sid, 2019).

Perceived institutional support, which includes opportunities for personal development, recognition, and fairness, has a positive effect on staff engagement (Khodakarami & Dirani, 2020). Staff loyalty towards supervisors and institutions is positively related to employee engagement (Khodakarami & Dirani, 2020). There must be gender diversity in the aspect of staff involvement in leadership roles, specifically in female leadership. Female work involvement is significantly affected by discriminatory treatment (Banihani & Syed, 2017). Papangkorn et al. (2021) suggest that gender diversity in leadership roles can increase institution success.

Banihani and Syed (2017) assert that women who lack administratively based self-esteem may find it difficult to ask for what they deserve and may miss out on opportunities. For example, female students in the colleges of education may lack institutional self-esteem and forfeit chances in the leadership role. Ling Suan and Mohd Nasuridin (2016) established that male employees possess a stronger positive association between supervisor support and work engagement, whereas female employees disagree less with the seniors of the institution. Islam et al. (2021) developed a direct association between valence and employee engagement, gender diversity being moderated and the female employees showing better performance in institutional change. Conversely, Mariah et al. (2023) established that gender is not a moderator of the transformative leadership-employee engagement relationship. Hameduddin and Lee (2022) established that there exists a negative correlation between sexual harassment and employee engagement, albeit with no observable moderating effects where gender equality or supervisor support are factors to be considered.

Data and Method of Analysis

The study then seeks to ascertain the impact of female gender leadership on employee engagement. This study uses explanatory survey research methodologies to acquire the relevant quantitative data that were used for data analysis. Explanatory survey research seeks to comprehend the connections and underlying causes behind observable events. The study involved fieldwork for issuance of questionnaires to the participants, who were chosen from a population sample for observational purposes, and that the results were applied to the entire population as a whole. On that note, the data for this study were collected using a structured questionnaire since a questionnaire-based survey method captures causal linkages between measures of female gender leadership and employee engagement. This method will reliably identify extreme data, delineate associations between variables in a sample, and, as a result, give generalizable comments about the research context. In this regard, principal officers, deans, and directors of academics and non-academics units in federal and states colleges of education in Nigeria received a copy of the questionnaire via an online Google form.

The closed-ended scale is a scale for respondents to rate their agreement or disagreement with certain statements. The use of closed-ended questions reduces bias and allows for a more uniform response, reducing individual interpretation and variety in responses and ensuring a more accurate and representative study. A 21-item questionnaire based on a five-point Likert scale with scores from 1 point "strongly disagree" to 5 points "strongly agree" presents the professionals' perceptions in light of the study variables. The participants were informed about the topic of the study. There are indications that the study will not be able to access information from all the population. By drawing a sample from it and making conclusions about it as a whole, the study will solve this problem. The accuracy of estimations based on the computation of research indicators and inferential statistics is determined by the representativeness of the sample. The study employed simple random sampling method and this helped the study ensure that the sample is true representative of the population and avoid bias in the sample.

This study will employ quantitative methods in data analysis to investigate the impact of female gender leadership on employees' engagement. Quantitative methods use numbers and statistical analysis for objective, reliable results, enabling sophisticated procedures like correlation, regression, and test of significance. On this note, hierarchical regression models will be used in analyzing the data gathered for the study. This hierarchical regression test was carried out using SPSS. Hierarchical regression is used to examine the relationship between a dependent variable and various independent variables. It is a type of multiple regression analysis where

predictor variables are included in a particular order according to their theoretical or practical significance (Gelman & Hill, 2006). Erin et al. (2020) affirm that the technique is valuable when there is a theoretical basis for believing that some independent variables are more strongly related to the dependent variable than are others. This step will help to get significant and robust findings, consistent with the studies of Banihani et al. (2013), Khodakarami and Dirani (2020), Rodríguez-Modroño (2022), Topchyan and Woehler (2020), and other scholars who have employed regression analysis in their various studies. Empirical models to be estimated for the study were proxied as staff engagement (SE), female gender perceptions (FGP), female gender restrictions (FGRt), female gender demands (FGD), female gender representation (FGRp), year of experience (YoE), and academic qualification (AQ). Thus, in accordance with Woltman et al. (2012), the model to be utilized in the study is presented below.

$$Y_i = \beta_0 + \beta_1 X_{i1} + \dots + \beta_n X_{in} + \mu_i \dots\dots\dots (1)$$

Where:

Y_i = Dependent Variable Measured by SE

X_{i1} = Independent Variables Measured by FGP, FGRt, FGD, and FGRp.

X_{in} = Control Variables Measured by YoE and AQ.

β_0 = Intercept of the Regression Model

β_1 = Regression Coefficient Associated with X_{i1}

β_n = Regression Coefficient Associated with X_{in}

μ = Random Error Associated with the Regression Model.

Equation (1) was rewritten to suit the study, in line with the impact of each of the four independent variables that were considered in the study.

Thus, examining the impact of female gender perceptions on staff engagement, is represented as:

$$SE_i = \beta_0 + \beta_1 FGP_{i1} + \beta_2 YoE_{i2} + \beta_3 AQ_{i3} + \mu_i \dots\dots\dots (2)$$

Assessing the impact of female gender restrictions on staff engagement, the model is represented as follows:

$$SE_i = \beta_0 + \beta_1 FGRt_{i1} + \beta_2 YoE_{i2} + \beta_3 AQ_{i3} + \mu_i \dots\dots\dots (3)$$

In evaluating the impact of female gender demands on staff engagement, the model is represented as follows:

$$SE_i = \beta_0 + \beta_1 FGD_{i1} + \beta_2 YoE_{i2} + \beta_3 AQ_{i3} + \mu_i \dots\dots\dots (4)$$

To assess the impact of female gender representation on staff engagement, the model is represented as follows:

$$SE_i = \beta_0 + \beta_1 FGRp_{i1} + \beta_2 YoE_{i2} + \beta_3 AQ_{i3} + \mu_i \dots\dots\dots (5)$$

The study applied test of reliability and validity to examine the accuracy and reliability of the findings. Cronbach's alpha is a reliable statistical measure that is applied to assess the internal consistency of a measuring tool, examining how well its components quantify the same construct. Cronbach's alpha values measure between 0 to 1, with higher values being indicative of stronger internal consistency. An alpha of 0 is no internal consistency, and an alpha of 1 is perfect internal consistency. A general guideline is Cronbach's alpha of 0.7 or higher is acceptable for research purposes (Peterson, 1994; Tavakol & Dennick, 2011). However, how accurately a measurement represents the underlying theoretical construct that it is intended to measure is known as construct validity. To guarantee the validity and reliability of the measuring tool, it is of utmost importance to assess its construct validity. Exploratory factor analysis (EFA) was utilized in this study

to uncover the underlying structure of a group of variables. It is crucial for validity assessment, ensuring a test accurately captures its intended content, and is essential for research technique development (Franke & Sarstedt, 2019; Moreira et al., 2021; Okluk Bökeolu & Koçak, 2021).

Ethical considerations ensure that studies are conducted in responsible and respectful manner. This study will take into account the ethical implications as well as obtain participants' willing consent (Kaewkungwal & Adams, 2019; Illes et al., 2004). Likewise, we ensured that the study was done in an impartial and fair manner, without discrimination or prejudice, and the highest moral and honesty standards were ensured in the work. Participants' identities were protected, and only the researchers had access to the research data, and also ensured that the study's benefits outweigh any possible risks.

RESULTS AND DISCUSSION

The study employed correlation matrix in table 4.1 to examine the relationship between the dependent and independent variables.

Table 4.1 Pearson Product-Moment Correlation Coefficient

Variables	EE	YoE	AQ	FGP	FGRt	FGD	FGRp
EE	1						
YoE	0.133	1					
AQ	-0.017	0.092	1				
FGP	0.477**	0.049	-0.139	1			
FGRt	0.361**	-0.100	-0.123	0.506**	1		
FGD	0.262**	-0.066	0.004	0.395**	0.453**	1	
FGRp	0.667**	-0.070	-0.155	0.496**	0.511**	0.460**	1

Source: Correlation Coefficient Results using SPSS

Note: (1) Number of observation is 226

(2) **. Correlation is significant at the 0.01 level (2-tailed).

(3) EE = Employee Engagement, YoE = Participant's Year of experience, AQ = Participant's Academic Qualification, FGP = Female Gender Perceptions, FGRt = Female Gender Restrictions, FGD = Female Gender Demands, FGRp = Female Gender Representation

The aim of the research is to establish the impact of female gender leadership on staff engagement in colleges of education in Nigeria. Correlation analysis was utilized to examine the relationship among the variables used in the study. The findings in Table 4.1 presented a positive and high degree of relationship between dependent variable (staff engagement) and independent variables (FGP, FGRt, FGD, and FGRp). This strong positive relationship between the study variables confirmed the assumed relationships among variables. Although the outcome of the control variables, that is, participants' demography, such as participant's years of cognizance experience and education qualification, did not appear to be correlate strongly with staff engagement, as shown in Table 4.1.

Impact of female gender perceptions on employee engagement

Hierarchical regression was employed to examine the impact of female gender perception on staff engagement, and findings are in Table 4.2. The first step of the regression involved YoE and AQ; FGP was added as the second step. The final regression model explained approximately 26% of variance in staff engagement ($R^2 = 0.26$, $F(3, 121) = 35.00$, $p < 0.05$). YoE and AQ explained approximately 2% of the variance in staff engagement, despite neither of the variables being significant predictors. In step 2, when controlling for YoE and AQ, approximately 24% of the variance in staff engagement was predicted, despite only FGP being a

significant predictor of staff engagement where greater FGP was related to more staff engagement. The results revealed a positive coefficient value for YoE (0.11) in step 1.

Table 4.2: Employee Engagement and Female Gender Perceptions

Variable	Cumulative		Simultaneous	
	<i>R² -change</i>	<i>F-change</i>	<i>β</i>	<i>P</i>
Step 1				
YoE	0.02	F(2, 122)= 1.15	0.11	0.186
AQ			0.04	0.622
Step 2				
FGP	0.24	F(1, 121)=35.00**	0.48**	0.000

Source: Hierarchical Regression Results using SPSS

Note: (1) Number of observation is 226

(2) **. Significant at 1% and *. Significant at 5%.

(3) YoE = Participant's Year of experience, AQ = Participant's Academic Qualification, FGP = Female Gender Perceptions

This implies that an increase in cognizance experience by one year resulted in 11% improvements in staff engagement, although such an outcome was not significant as the p-value of 0.186 was greater than the significant value of 5%. Also with the control of the effect of AQ, it was established that a one-unit increase in participants' academic experience shifted staff engagement by 4 units, with a coefficient estimate of 0.04 as evident in Table 4.2. This is hence not significant, with a p-value of 0.622 larger than the 5% significance level. Step 2 of FGP findings provided a positive coefficient of 0.48, indicating that a one-unit increase in FGP resulted in staff engagement increasing by 48% ceteris paribus. The outcome was significant with a p-value of less than 5%, as shown above. Therefore, this is an indication that female gender perception is an important predictor of staff engagement in Nigerian colleges of education. The findings established in the regression results are in line with the studies of Banihani et al. (2013), Woods and Sofat (2013), Banihani and Syed (2017), and Akmadelita and Kusumaputri (2018).

Impact of female gender restrictions on employee engagement

Hierarchical regression analysis was used to test the impact of female gender restrictions on staff engagement, and the results are shown in Table 4.3. YoE and AQ were entered at the first step of the regression, and FGRt at the second step. The regression equation explained 16% of the variance in staff engagement ($R^2 = 0.16$, $F(3, 121) = 20.61$, $p < 0.05$). The YoE and AQ accounted for around 2% of variation in staff engagement but the YoE alone was a strong predictor. Step 2 accounted for around 14% of variation in staff engagement following statistical control for YoE and AQ, and FGRt had a significant prediction for staff engagement with greater FGRt being related to greater employee engagement. In step 1, findings revealed a positive coefficient of YoE (0.17). This shows that 1year increase in years of cognizance experience caused a 17% increase in staff engagement, the finding was statistically significant at a p-value of 0.045, which is less than 5%.

Table 4.3: Employee Engagement and Female Gender Restrictions

Variable	Cumulative		Simultaneous	
	<i>R² -change</i>	<i>F-change</i>	<i>β</i>	<i>P</i>
Step 1				
YoE	0.02	F(2, 122)= 1.15	0.17*	0.045

AQ			0.02	0.841
Step 2				
FGRt	0.14	F(1, 121)= 20.61**	0.38**	0.000

Source: Hierarchical Regression Results using SPSS

Note: (1) Number of observation is 226

(2) **. Significant at 1% and *. Significant at 5%.

(3) YoE = Participant's Year of experience, AQ = Participant's Academic Qualification, FGRt = Female Gender Restrictions

The results also depicted that one-unit difference in participant academic level resulted in two-unit difference in staff engagement with a coefficient value of 0.02. As such, this result is insignificant with a p-value of 0.841 greater than the 5% significance level. The estimate from Step 2 FGRt was positive at 0.38, indicating that a one-unit increase in FGRt increased staff engagement by 38% while keeping other variables constant. As noted before, the outcome indicated a significant effect with a p-value less than the 5% level of significance. This means that gender restrictions of being female are among the most significant predictors of staff engagement in Nigerian colleges of education. The result confirms the findings of Padmanabhanunni et al. (2017), Banihani and Syed (2017), Hoshina et al. (2021), and Dwivedi et al. (2023).

Impact of female gender demands on employee engagement

Table 4.4 shows the findings from the hierarchical regression analysis carried out in a bid to quantify the impact of female gender demands on staff engagement. The first step of the regression involved YoE and AQ, while the second included FGD. Staff engagement was explained by the regression equation, accounting for 9% of the variance ($R^2 = 0.09$, $F(3, 121) = 9.72$, $p < 0.05$). YoE and AQ explained about 2% of the variance in staff engagement, but none of the variables were significant predictors. Step 2 explained around 7% of the variance in staff engagement after moderating for YoE and AQ. On the other hand, FGD was a significant predictor of staff engagement, with higher FGD being correlated with more employee engagement.

Table 4.4: Employee Engagement and Female Gender Demands

Variable	Cumulative		Simultaneous	
	R ² -change	F-change	β	P
Step 1				
YoE	0.02	F(2, 122)= 1.15	0.15	0.080
AQ			-0.03	0.725
Step 2				
FGD	0.07	F(1, 121)= 9.72**	0.27**	0.002

Source: Hierarchical Regression Results using SPSS

Note: (1) Number of observation is 226

(2) **. Significant at 1% and *. Significant at 5%.

(3) YoE = Participant's Year of experience, AQ = Participant's Academic Qualification, FGD = Female Gender Demands

Step 1 revealed that the coefficient for YoE was positive (0.15). This shows that a year increase in years of cognizance experience increased staff engagement by 15%; nonetheless, this result was not significant with a

p-value of 0.080 greater than the 5% significance level. The results further indicated that one unit change in participants' AQ led to a 3-unit reduction in staff engagement with a coefficient value of -0.03. Consequently, with a p-value of 0.725 greater than the 5% level of significance, this result is not significant. The result in Step 2 FGD revealed a positive coefficient of 0.27, which revealed that an increase in FGD by one unit was linked to an increase in staff engagement by 27%. As previously indicated, the finding revealed a significant effect with a p-value of 0.002 below 5% significance level. This therefore indicates that female gender demands are an important factor for staff engagement in Nigerian colleges of education. The results validate the studies of Matias et al. (2017), Wang (2020), Slama et al. (2021), Hameduddin and Lee (2022).

Impact of female gender representation on employee engagement

Table 4.5 presents the result of a hierarchical regression analysis used to determine the impact of female gender representation on staff engagement. Regression in step 1 includes YoE and AQ, whereas FGRp is added in step 2. The combined regression model explained approximately 49% of the variation in employee engagement ($R^2 = 0.49$, $F(3, 121) = 109.12$, $p < 0.05$). YoE and AQ together explained about 2% of the variation in staff engagement, although only YoE was a significant predictor. However, when YoE and AQ are controlled for, Step 2 explained about 47% of the variation in staff engagement, and FGRp was also a strong predictor of staff engagement, with higher FGRp having higher staff engagement. Findings in Step 1 indicated a positive coefficient of YoE (0.18). This means that an 18-unit improvement in staff engagement was due to a year improvement in years of cognisance experience; however, the outcome was statistically significant with a p-value of 0.009 below the significance level of 5%. The findings further showed that a one-unit rise in academic qualification caused an 8-unit improvement in staff engagement with a coefficient of 0.08. Thus, the p-value of 0.256 exceeds the 5% level of significance, and it is not a significant result.

Table 4.5: Employee Engagement and Female Gender Representation

Variable	Cumulative		Simultaneous	
	R ² -change	F-change	β	P
Step 1				
YoE	0.02	$F(2, 122) = 1.15$	0.18**	0.009
AQ			0.08	0.256
Step 2				
FGRp	0.47	$F(1, 121) = 109.12^{**}$	0.69**	0.000

Source: Hierarchical Regression Results using SPSS

Note: (1) Number of observation is 226

(2) **. Significant at 1% and *. Significant at 5%.

(3) YoE = Participant's Year of experience, AQ = Participant's Academic Qualification, FGRp = Female Gender Representation

The outcome of Step 2 FGRp was a positive coefficient value of 0.69, as an increase in a unit of FGRp resulted in a 69% increase in staff engagement. As noted above, the finding was highly significant, with the p-value being less than the 5% significance level. This suggests that female gender representation has a significant impact on staff engagement in Nigerian colleges of education. The findings are in line with the studies of Banihani and Syed (2017), Saravanan and Vasumathi (2018), Vuong and Sid (2019), Islam et al. (2021), and Hameduddin and Lee (2022). Although the outcome contradicts some earlier research studies such as Ling Suan and Mohd Nasurdin (2016), Vuong and Sid (2019), and Kustiawan et al. (2022), for example, Ling Suan and Mohd Nasurdin (2016) established that leaders' support had positive influences on staff's work engagement, which were stronger among male employees than among female employees.

Reliability and Validity Results

Cronbach's alpha was used to compare response to different scale items to establish if they were consistent. The Cronbach's alpha coefficient values for all the factors were more than 0.7 and less than 0.9, indicating there was high reliability. This indicates that the study had met the survey's internal consistency and reliability standards. As shown in the above Table 4.6, the average of the pattern matrix results was over 0.7, and the factor loading showed that the results were significant enough to have convergent validity. There was no cross-loading between the factors, and the result of the factor correlation matrix showed that the factors correlated with each other at over 0.7. The study obtained appropriate results for validating discriminant validity. The KMO test and Bartlett's test were both excellent and significant statistically at the level of 5%, and hence they confirmed the sample adequacy with a measure of 0.757, which is greater than 0.7. The test goodness-of-fit, with Chi-Square = 1106.95 and statistical significance level = 5%, indicates good fit.

Table 4.6: Cronbach's Alpha and Factor Analysis

	Factor				
	EE	FGP	FGRt	FGD	FGRp
Cronbach's Alpha	0.810	0.753	0.747	0.731	0.858
KMO and Bartlett's Test	0.757**				
Goodness-of-fit Test: Chi-Square	1106.95**				

Source: Exploratory Factor Analysis and Cronbach's Alpha using SPSS

Note: (1) Number of observation is 226

(2) EE = Employee Engagement, FGP = Female Gender Perceptions, FGRt = Female Gender Restrictions, FGD = Female Gender Demands, FGRp = Female Gender Representation

** Significant at 1% and * Significant at 5%.

CONCLUSIONS

The study concluded that female gender perceptions significantly impact employee engagement in Nigerian colleges of education. Female leaders' perceptions influence their sense of purpose and fulfillment in the college. However, women are often undervalued, leading to negative career advancement and boring experiences. Gendered restrictions, such as social stereotypes and administrative preferences, can affect female leaders' psychological safety. Unfair treatment, heavy workloads, and sexual harassment can also negatively impact psychological safety. Gender-specific communication preferences and underrepresentation in leadership roles can also negatively affect psychological safety. Female gender demands also influence employee engagement, motivation, and overall wellbeing. Gendered psychological availability, influenced by societal norms and gender roles, affects emotional availability. Conflicts between work and family can also impact emotional availability. Female gender representation contributes to staff engagement, particularly in female-gender leadership. Female leaders prioritize emotional intelligence, fostering collaboration, open communication, risk-taking, staff engagement, and job satisfaction. Their styles are found to enhance engagement and motivation, with a preference for a flat structure and higher effectiveness. The practical policy implications underscore the importance of promoting female gender leadership, training and mentorship programs for female staff, inclusive workplace policies to ensure equal opportunities and representation of women at all decision-making levels, and staff engagement in educational institutions. Hence, it highlights the need for recognition of female leaders' achievements, fostering an enabling environment, and promoting female leadership through institutional culture and gender diversity policies.

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