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Environmental Leadership and Employees' Pro-Environmental Behaviour in Nigerian Tertiary Institution

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Abstract

This study explores environmental leadership-employees' pro-environmental behaviors nexus in public higher institutions. Anchored on social exchange theory and stakeholders' theory, the study posits that environmental leadership is not significantly related to employees' pro-environmental behavior (PEB) when D-PEB, innovative environmental leadership framework and creative friendly environment are controlled. To test this assumption, multi-stage sampling comprising purposive, convenience, stratified and simple random technique was adopted for sample selection while regression analysis was applied for statistical test. Survey of two hundred and ninety-five (295) employees from various tertiary institutions in North-west Nigeria revealed that statistically significant positive relationship exists between environmental leadership and employees' PEB when D-PEB and creative friendly environment are controlled. The implication is that environmental leaders who develop and communicate a clear environmental vision and strategy that integrates sustainability into the institution's mission and goals, and promote environmental awareness across the institution can inspire the employees to engage in voluntary environmental behaviors that benefit the institution.

Keywords: *Environmental leadership, Employees' pro-environmental behaviors, Creative friendly environment and innovative environmental leadership framework*

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Background to the Study

Environmental change is one of the leading discussions in almost all fields of human endeavor. This is because the advent of industrialization has changed the condition of the atmosphere due to regular pollution from the production activities of the industries. Depletion of natural resources, pollution, loss of biodiversity (Fatoki, 2023; Zacher et al, 2024) by industrialized institutions has made the environment more challenging to human health. The ability of the workforce to adapt to the environmental change is of great challenge to the management. This calls for environmental leadership, Green leadership or Green Management. The most significant factor that allows sustainable pro-environmental behavior in the workplace is the appearance of sustainable managers (Herlina & Rivaldo, 2022). Green management refers to producing environmentally friendly products or services. It also involves practicing business process with behavior that minimizes the harmful environmental impact of their packaging, marketing, and so on (McKinsey 2021).

Employees behavior is the way and manner workers in a given organization reacts to a given circumstance in the workplace, considering individual and organizational culture. The fact that businesses are the primary causes of environmental pollution, pave way for employees' behavioral changes in line with the change in the ecosystem of the working environment. Pro-environmental behaviour is the expected outcome of environmental leadership such as; employees environmental protection, natural resources management, sustainable usage of organizational resources, maintenance of office equipment or materials among others. Pro-environmental behaviour (PEB) are actions taken with the conscious intention of protecting the natural and man-made environment (Steg & Vlek, 2009, p.309). According to Clara et al. (2021), whether in its entirety or specific ecosystems, it is protecting our environment, from negative consequences of human activities that matters.

Protecting our environment has become so paramount, and cannot be overemphasized, be it where we live or work as individuals or group because this determines the quality of life we live, by playing its role, through growing appeals reflecting environmental issues. Environmental protection is a practice of protecting the natural and manmade environments by individuals, groups and the government (Listiyani& Said, 2018). A safe clean environment is that which offers the population the liberty to pursue their daily activities without fear of polluted water, air, land, fire outbreaks, flooding and diseases. It is because "safety first" is called in for every commitment to transform the safety culture of countries, according to Safety First Organization (2023).

Meanwhile, scholars in the field have made a credible effort in documenting empirical evidence on green management or environmental leadership on employees' pro-environmental behaviors in different sectors, but limited on tertiary institutions in Nigeria. Similarly, while the concern in our contemporary globe has become so huge and therefore, raised issues for discourse in academics and other human endeavors, and solutions are sought every day to make it friendly and safe. Also, as environmental degradation poses a significant threat to Nigeria's sustainable development, tertiary institutions, as hubs of knowledge and innovation, play a crucial role in fostering environmental sustainability. These motivate the

researchers to conduct the study in Nigerian tertiary institutions. Hence, leadership guidance becomes critical if the effect of PEB on tertiary institutions is to be addressed under difficult living and teaching conditions.

Environmental leadership is vital for promoting pro-environmental behavior among employees in Nigerian tertiary institutions. Leadership styles such as transformational, ethical, and green leadership significantly impact employees' environmental behaviors. Despite challenges, strategic planning, leadership commitment, and employee engagement can foster a culture of sustainability. Empirical evidence supports the positive impact of environmental leadership on employee PEB, highlighting the importance of leadership in achieving environmental sustainability within educational institutions. Therefore, this will generate and provide useful data that will help us in understanding the best environmental leadership and pro-environmental behavior to be adopted in the Nigerian tertiary institutions and other Nigerian government organizations. Meanwhile, this study is limited to selected tertiary institutions in Kaduna, Jigawa, Katsina and Kebbi state, Nigeria.

Statement of Research Problem

The research on pro-environmental behavior had been focused mainly on the tourism sector, students, and automobile, basically the hospitality industry and other industries, employees' supervisors were not involved, in most of the empirical studies, to assess and report the PEBS of their employees. Tertiary institutions are yet to be adequately research on, especially in Nigeria. Studies have shown that pro-environmental behavior and its associated problems all constitute great loss of properties and lives in some cases, knowledge about environmental problem, its nature, causes and consequences is important for inducing PEB, Schwarz (1977) norm activation theory. It was also observed that a significant number of environmental issues have been traced to the pro-environmental behaviour, like nonchalant attitudes, as observed by Kpakol (2016) akin it to fraught with occasions of insubordination, disregard for professionalism and nonchalance towards role expectations, while stressing that scores of previous researches have investigated this phenomenon; however, it prevailed with consequences most often embarrassing. Nigerian environmental performance index stood at 168 amongst 180 countries in 2022, deteriorating from 100 in 2016, which on the contrary, it supposed to be lesser (Pandey, 2022).

In view of the above, the Federal Government of Nigeria, through the national environmental standards regulations enforcement agency (NESREA), has involved in providing rules, regulations, policies, guidelines and standards for protecting the environment. Similarly, efforts have been made to ensure government offices in the country are safety oriented, Article 17. (3) C of the Nigerian Constitution (1999). However, from all indications public infrastructure have not been able to maintain their useful salvage life period, could be as a result of nonchalant attitude of government workers, towards government properties, if proper inspection is carried out and records are kept, as the case in Nigeria and some African countries at large due to the way these properties are handled, there is inadequate research on their life cycle of goods and products and recycling impacts on the environment, fire incidences have happened in work places, ranging from the Ministry of finance, office of the accountant

general of the federation (treasury house),banks, schools, political offices, media houses example with Sokoto NTA (National Television Authority) December 2023, fuel stations and markets Onuba (2020), which could cost a drop in the GDP and increased government spending, if the proper pro-environmental behavior was applied, could have been avoided. Furniture in government schools and offices and the civil service gadgets as a whole, are mishandled, going around for inspection, would be a proof of physical evidence.

In response to the alarming rate of such incidences and their impact on humans, the Nigeria pro-environmental behavior in the tertiary institutions are characterized from careful and close observation by the researcher, with leaving electrical gadgets and switches on for almost 24hours, whether or not in use, disposal of plastic materials such as bottles and sachets, water bottles and cans, on floors indiscriminately, rather than dropping them in trash-bins, provided for them, wasting of available water, improper use of conveniences. Hence, this study becomes inevitable since there is dearth of knowledge on emerging and developing countries especially the tertiary institutions in Nigeria which this research sees as the heart of the nation, to proffer suggestions that can help achieve a society and workplace that are free of harmful environmental behavior, thus, the study differentiates itself from the previous studies by investigating pro-environmental behavior in Nigerian public higher institutions in the north-west region. Consequently, the current study seeks to empirically investigate the relationship between environmental leadership and employees' pro-environmental behaviors in Nigerian tertiary institutions and test whether employees' pro-environmental behavior (PEB) is significantly related to environmental leadership or not.

Literature Review

Literature review comprises conceptual review, review of empirical studies and relevant theories in order to gain a deep insight into the study's variables, identify and address scientific gap(s) in the earlier empirical literature, and understanding the underlying theory to guide the study's design and analysis.

Concept of Environmental Leadership

According to Toye (2022) leadership style as a leader's style of giving direction, motivating people and implementing plans. Leadership behaviour plays a crucial role in effectively guiding employee's pro-environmental behaviour. A large number of research results have shown that positive leadership style positively affects employees' behaviour (Javed *et al.,* 2020, Wang *et al.*, 2021). Gordon& Berry (2006) stated that environmental leadership is yet to sufficiently be contained in any acceptable theory of leadership for reliable bases for reflection and action for safeguarding our collective future. In a study by Goleman (2000) he talked about six styles of leadership in his article, which are, autocratic, coaching, democratic, pacesetting and coercive. The post independent leadership style and management styles in Nigeria have remained autocratic, dictatorial and most of the leaders in both public and private.

There is a leadership paradigm focus from the individual to the group or institution, leading to efforts linking leadership and natural environment, in an era of complex and evident environmental and social problems, environmental leadership is a priority element for

improving the deteriorating environment and very little research has been done on the issue of environmental leadership (Akiyama et al.,2013).

Concept of Employees' Pro-environmental Behaviour

Pro-environmental behaviour is that behaviour that a person consciously chooses in order to minimize the negative impact of their actions on the environment (Kollmus*et al.,* 2002). The term pro-environmental behaviour refers to policies and practices that promote PEB. This could be carried out in public (participation in environmental movements) or private domains of (recycling; Hadler& Haller, 2011). Businesses and work places must assume greater responsibility for environmental protection and natural resources management (Wassmer*et al.,* 2014). The effectiveness of pro-environmental practices is determined by employees' perception of the environmental problems and subsequent behaviours (Boiral, 2009).

Review of Empirical Studies

Avalanche of studies (Ataul, 2022; Banwo & Du, 2019; Faiq, Nomahaza & Jihad, 2018; Mughal, Shuang, Naveed, & Fawad, 2022; Nwanzu1 &Babalola, 2024; Omarova & Jo, 2022; Sihabudin, 2021; Spector, 2019; Ujjal, 2017; Yue et al.,2022; Zhao & Liang, 2023) have explored environmental leadership-employees' pro-environmental behavior connections. The researches have consistently shown that environmental leadership plays a crucial role in promoting environmentally friendly behaviors among employees. Despite this significance role, there is a death of empirical work on drivers of pro-environmental behavior, innovative environmental leadership framework and creative friendly environment used as a control variable in the relationship between the primary variables in Nigerian north-west tertiary institutions. The implication is that correct estimate of the connection between the variables may remain empirically inconclusive and drawing clear cut conclusion may also be difficult. This knowledge gap constrains the findings of the earlier studies. Hence, this study seeks to investigate the link between environmental leadership and employees' pro-environmental behaviors in Nigerian public higher institutions holding control variables fixed so as to establish true link between the variables.

Theoretical Review

This research work is anchored on the Stakeholders Theory of Tom *et al*. (2018), in order to adequately tie human behaviour and its interaction with the environment.

Stakeholder Theory

The stakeholders' theory is for organizational management and business ethics that accounts for the multiple constituencies impacted by business entities like employees, suppliers, local communities, creditors, government, leaders of organizations and others (Lin *et al*., 2018). It looks at the morals and values in managing an organization, such as those related to corporate social responsibility, market economy, and social contract theory. A common version of stakeholders' theory, seeks to define the specific stakeholders of a company and examine the conditions under which managers treat parties as stakeholders (Tom et al., 2003). In areas such as law, management, and human resources, stakeholders' theory succeeded in challenging the usual analysis frameworks by suggesting that stakeholders need should to be put at the

beginning of any action (Harrison & Wicks, 2010). The word was coined first when it appeared in an integral memorandum, at the Stanford Research in 1963 Murdock (2005). Whereas, for the traditional view of a company, the stakeholder theory view, only the owners or stakeholders of the company are important and the company has a binding fiduciary duty to put their needs first, to increase value for them. Stakeholders' theory instead argues that there are other parties involved which including employees, customers, suppliers, finances, communities, government bodies, political groups, trade associations, and trade unions. Even competitors are sometimes counted as stakeholders-their status being derived from their capacity to affect the firm and their stakeholders. The nature of what constitutes a stakeholder is highly contested (Miles, 2017). To achieve a better environment, this theory would help in the application of pro-environmental behaviors as a team, knowing that Directors and other workers in the civil service have a responsibility to work as stakeholders or a team, to achieve a serene environment. The above theory explains to which workers, customers, political groups and all stakeholders should work as a team to protect the environment.

Methodology

Methodological approach adopted begins with the research designs, sampling technique, participant and procedure. Then, a method of data collection followed with reliability and validity of the survey instrument. Descriptive and inferential statistics were utilized to analyze data and test hypotheses. A cross-sectional survey design with a multi-stage sampling technique was adopted to select participants for this study. Primary data were collected through questionnaires administered on employees in public higher education organization in the north-west region, Nigeria. The cross-sectional design is appropriate because the study aimed to establish associations between variables. The multi-stage sampling technique was adopted which comprises purposive, convenience, stratified and simple random sampling techniques. In the first stage, purposive sampling is used to select all the seven states in Nigerian north-west because the region is the study area. Similarly, a convenience sampling is adopted to select four states out of the seven states as the study units of analysis are conveniently available within the states. Consequently, this study is limited to Kaduna, Jigawa, Katsina and Kebbi states. In the final stage, the sample units are drawn by simple random sampling technique.

The study test sampling adequacy through Kaiser–Meyer–Olkin (KMO) technique to ensure the sample size is adequate. This is followed by validating the instrument through face, content, construct and convergent validity to ensure they suit the purpose of the study. Face and content validities are determined through the review of the instrument by PEB experts and pilot test is conducted to ensure clarity and understandability of the questionnaire. In addition, Pearson correlation is incorporated to ascertain construct validity of the measurement model while reliability of the research instrument is measured using Cronbach's alpha and composite reliability (CR) to affirm the internal consistency of all the items in the instrument. Regression analysis was utilized to examine the impact of explanatory variables (environmental leadership, D-PEB, innovative environmental leadership framework and creative friendly environment) on the PEB.

Data Analysis and Presentation

A total of 369 out of 450 questionnaires (82% response rate) were returned. After deleting entries with missing data, 295 responses were included in the analysis. The analysis of this study is structured to include the findings of sampling adequacy test, data validity and reliability test, diagnostics analysis, participant demographic profile, descriptive statistics, result of tested hypothesis and discussion of findings.

KMO, Data Validity and Reliability Test

Table 1 presents the summary statistics of Kaiser-Meyer-Olkin, validity and reliability test comprising the standardized correlation coefficient, Cronbach's (α,) AVE, and CR. First, this study retains only fifty-one constructs out of the total fifty-four items. The excluded three items had correlation coefficient below 0.70. Then, sampling adequacy and Bartlett test of Sphericity were conducted. The general criterion is that KMO is acceptable if its value is greater than .5 and falls within the range of 0.70–1.00. In this study, the KMO value was 0.822 while Bartlett's test value was 703.42, $p < .05$ (p-value = 000), both confirming the adequacy of the sample and support the factorability of the correlation matrix. Moreover, Cronbach's alpha (α) and composite reliability (C.R) are widely used statistics for the evaluation of construct-level reliability. A threshold values of 0.70 or higher is considered acceptable for α and C.R. The values for α and C.R exceed the threshold of .70, and are indicators of the reliability of measurement scales and items. Furthermore, the average variance extracted (AVE)was analyzed to check convergent validity of the constructs. An AVE value of 0.5 or above is considered acceptable. As presented in Table 1, the AVE values exceeded the threshold value of 0.50, indicating satisfactory convergent validity.

Table 1: KMO, Data Validity and Reliability

Variables/Constructs	Item	Correlation	Cronbach α	AVE	CR
KMO Bartlett's test of Sphericity App. Chi-square Df Sig		0.822 703.42 50 .000			
Barriers to Pro-Environmental Behavior	B-PEB1	0.81	0.81	0.564	0.901
	B-PEB2	0.78			
	B-PEB3	0.74			
	B-PEB4	0.79			
	B-PEB5	0.75			
Drivers to Pro-Environmental Behavior	D-PEB1	0.88	0.83	0.667	0.932
	D-PEB2	0.83			
	D-PEB3	0.77			
	D-PEB4	0.82			
	D-PEB5	0.85			
	D-PEB6	0.83			
	D-PEB7	0.78			
	D-PEB8	0.76			
Pro-Environmental Behavior	PEB1	0.84	0.87	0.686	0.935
	PEB2	0.87			
	PEB3	0.86			
	PEB4	0.93			
	PEB5	0.91			
	PEB9	0.88			
	PEB10	0.85			
	PEB11	0.82			
Environmental Leadership	EL1	0.91	0.88	0.674	0.943
	EL 2	0.78			
	EL 3	0.80			
	EL 4	0.77			
	EL 5	0.79			
	EL 6	0.86			
	EL 7	0.88			
	EL 8	0.85			
	EL 9	0.84			
	EL 10	0.84			
	EL 11	0.90			
	EL 12	0.92			
Innovative Environmental Leadership Framework	IELF1	0.89	0.80	0.537	0.884
	IELF 2	0.83			
	IELF 3	0.75			
	IELF 4	0.76			
	IELF 5	0.78			
	IELF 6	0.91			
	IELF 7	0.94			
	IELF 8	0.86			
Creative Friendly Environment	CFE1	0.77	0.83	0.661	0.912
	CFE 2	0.72			
	CFE 3	0.76			
	CFE 4	0.82			
	CFE 5	0.87			
	CFE 6	0.82			
	CFE 7	0.83			
	CFE 8	0.85			
	CFE 9	0.77			
	CFE 10	0.72			

Diagnostic Test

To confirm multicollinearity in the variables, tolerance values and variance inflation factor (VIF), were checked. Tolerance values lie above 0.2 and VIF values is less than 10, thus

confirming no multicollinearity as shown on Table 4(Hair et al., 2020; Yu et al., 2015). Similarly, Durbin-Watson value of the model was 2.339 indicating no evidence of auto-correlation of the errors while cook's distance was 0.143 less than 1.00 signifying no potential problem with the outliers. Besides, normality of distribution was ascertained as Jarque-Berra values are greater than 5% statistical level of significance except innovative environmental leadership framework.

Participant Demographic Characteristics

Demographic data revealed that two hundred and ninety-five (295) employees in eight (8) public higher education organizations in the north-west region, Nigeria, participated in the study. Age of respondent was classified in five groups (below 18, 25–34, 35–44, 45–54, and above 55) and the survey results show that more than 60% of the employees were aged between 18-44 years and 36% were aged between 45 years and above. The male participants accounted for 75% of the total employees compared to the female employees with 25% of the total. In terms of employment status, one hundred seventy-one (171) academic staff recorded the highest figure (58%) of the total employees compared to the remaining one hundred and twenty-four (124) non-teaching staff. In the categorization of respondents by the highest academic qualification attained, M.Sc recorded the highest with 41%, followed by B.Sc with 25% and Ph.D with 15%.For the employment level, most of the respondents were from the intermediate level (45%)who are mostly supervisors and can promote other employees to adopt PEB at work. Years of work experience registered highest years of experience within the age bracket of 11 – 15 years with 32%. Participants' profile shows that that majority of the respondents for this study comprise middle-aged, male, senior academic staff in the intermediate level that can demonstrate a strong commitment to environmental protection and have acquired higher academic qualification with moderate years of work experience.

Table 2: Participants' Demographic Characteristics

Item	Category	Frequency	Percentage (%)
Age	18-24	30	10
	25-34	89	30
	35-44	71	24
	45-54	56	19
	55 or Older	49	17
	Total	295	100
Gender	Male	221	75
	Female	74	25
	Total	295	100
Academic Qualifications	Ph.D	44	15
	M.Sc	121	41
	B.Sc	74	25
	HND/PGD	35	12
	National Diploma	21	7
	Total	295	100
Employment status	Academic staff	171	58
	Non-teaching staff	124	42
	Total	295	100
Job rank	Senior cadre	180	61
	Junior cadre	115	39
	Total	295	100
Employment level	Entry level	47	16
	Intermediate	133	45
	Mid-level	85	29
	Senior or Executive	30	10
	Total	295	100
Years of work experience	Less than 5 year	89	30
	5-10 years	82	28
	11-15 years	94	32
	More than 15 years	30	10
	Total	295	100

Descriptive Statistics

Table 3 depicts the means, standard deviations, minimum and maximum distributions of the study variables. An employee pro-environmental behavior (PEB) is the dependent variable while environmental leadership style is the independent variable. Drivers of pro-environmental behavior (D-PEB), innovative environmental leadership framework and creative friendly environment are the control variables. The minimum observation ranged from 6 to 19 score while maximum observation was 38. In addition, all variables standard deviation shows low variability to the mean of all variables. For instance, D-PEB had the most variability standard deviation (4.104) which was seven times variability to the D-PEB mean score. What this implies is that all variables mean are good representation of sample data. Environmental leadership and employees PEB had mean scores of 29.75 and 18.80 signifying a fairly high increase in extent of environmental leadership style practiced in the institutions and extent an employee engaged in PEB. Similarly, drivers of PEB had a relatively high mean score of 27.74with a standard deviation of 4.10. This indicates that the major drivers of PEB include institutional environmental policies and procedures, training and education on environmental issues, necessary resources and equipment, and aware of the environmental

impact. However, barriers to PEB (B-PEB), innovative environmental leadership framework and creative friendly environment recorded moderate mean scores of 9.76, 16.14 and 28.24 respectively.

Table 3: Descriptive Statistics

Variables	Obs	Mean	Std. Dev	Minimum	Maximum
PEB	295	18.806	4.255	7	22
E. Leadership	295	29.751	6.757	12	38
B-PEB	295	9.764	2.166	6	13
D-PEB	295	27.746	4.104	10	35
IELF	295	16.146	3.314	9	23
CFE	295	28.241	6.503	19	37
Valid N (List wise)	295				

Test of Hypothesis

H0: Employees' pro-environmental behavior (PEB) is not significantly related to environmental leadership when D-PEB, innovative environmental leadership framework and creative friendly environment are controlled.

The statistical result in Table4 revealed that the model hadR^2 = 0. .639indicating that 63.9% of the variations in employees' PEB are explained by the four variables entered (environmental leadership, D-PEB, innovative environmental leadership framework and creative friendly environment). Similarly, the F-statistics = 5.21, with a p-value = 0.000 shows that the overall model is a significant predictor of the employees' PEB. The results further revealed all unstandardized coefficients with positive b-values signifying positive relationships between employees' PEB and environmental leadership, D-PEB, innovative environmental leadership framework and creative friendly environment. The standardized coefficients (beta) weight indicated that environmental leadership is the strongest predictor of employees' PEB, followed by D-PEB, creative friendly environment, workforce, and innovative environmental leadership framework. Finally, the t-test statistics confirmed a statistically significant relationship between employees' PEB and the explanatory variables (environmental leadership, D-PEB, and creative friendly environment) except innovative environmental leadership framework as the t-test p-value is less than.5 ($p < 0.05$). Consequently, employees' pro-environmental behavior (PEB) is significantly related to environmental leadership when D-PEB and creative friendly environment are held constant.

Table 4: Multiple Regression Analysis

	Dependent Variable: Employees' PEB					
	B	Std. Error	Beta	t	Sig	Jarque-Bera
Constant	7.217	1.917		5.413	.000	3.161076, p =.137
E. Leadership	.442	.1.273	. 426	6.165	.000	2.409048, p =.273
D-PEB	.418	.981	.349	6.007	.000	1.076358, p =.064
IELF	.235	5.222	.045	1.182	.039	2.59200, p =.000
CFE	.398	1.181	.337	4.050	.000	1.78247, p =.049
$R^{2=}$.639						
F statistics = 5.21Sig = .000						
Durbin Watson = 2.339						
Tolerance value = 0.753 VIF = 1.836,						
cook's distance = 0.143						

Contributions to Knowledge

This study contributes to the growing body of knowledge on environmental leadership theory by explores the link between environmental leadership and employees' pro-environmental behaviors in public higher institutions. Drivers of PEBs, innovative environmental leadership framework and creative friendly environment are controlled in the study to establish truth connection between the primary variables and extend findings of earlier studies. The study integrates environmental leadership and pro-environmental behavior theories to provide a comprehensive understanding of the factors that determine employees' pro-environmental behavior. Finally, a benchmark framework is created to evaluate environmental performance in Nigerian tertiary institutions.

Challenges/Limitations of the Study

At the beginning the researchers found it difficult to reach out to all institutions in the north-west Nigeria however, with the adequate segmentation of research members to administer survey questionnaire across the sample states we were able to reach out and gathered adequate and required data for the study. Similarly, adopting cross-sectional survey research design for this study is a methodological gap as it may not capture the longitudinal nature of environmental leadership and pro-environmental behavior. Similarly, two hundred and ninety-five samples (295) used in the study may not be representative of the entire population and has tendency of limiting the generalizability of the findings. We control only drivers of pro-environmental behavior; innovative environmental leadership framework and creative friendly environment among myriads of relevant variables to establish truth link between the study variables. However, since the study has clearly specified the type of research design adopted (i.e. cross-sectional) and the sample (295) used is within the acceptable standard, the result can be interpreted as generalization of the entire study.

Discussion of Findings

This study explored the link between environmental leadership and employees' PEB holding D-PEB, innovative environmental leadership framework and creative friendly environment fixed. A set of hypotheses were tested using regression analysis to establish the connection.

The results accentuate statistically significant positive relationship between environmental leadership and employees' PEB when D-PEB and creative friendly environment are controlled except innovative environmental leadership framework, which is paralleled with the results of the past studies (Ataul, 2022; Banwo & Du, 2019; Faiq, Nomahaza & Jihad, 2018; Mughal, Shuang, Naveed, & Fawad, 2022; Nwanzu1 &Babalola, 2024; Omarova & Jo, 2022; Sihabudin, 2021; Spector, 2019; Ujjal, 2017; Yue et al.,2022; Zhao & Liang, 2023). The results provide evidence that environmental leadership is the strongest predictor of employees' PEB, followed by D-PEB, creative friendly environment, workforce, and innovative environmental leadership framework. Furthermore, the study uncovers high extent of environmental leadership style practiced in the institutions as well as high extent of employees' engagement in PEB.

It should be noted that all the previous studies on the subject matter that are reported in the open literature have investigated the link between environmental leadership and employees' PEB. Interestingly, a clear understanding of the degree of extent to which environmental leadership relates to employees' PEB in Nigerian public tertiary institutions is essential and has not been given great attention by researchers in the past. This knowledge gap constrains the findings of the earlier studies. Therefore, this study provides a more comprehensive investigation that control D-PEB, innovative environmental leadership framework and creative friendly environment in the relationship between environmental leadership and employees' PEB.

Conclusion and Recommendations

In this study, two hundred and ninety-five (295) self-administered questionnaires were used to elicit necessary information to investigate the link between environmental leadership and employees' PEB. Based on the research findings, the following conclusion was drawn: there exist a statistically significant positive relationship between environmental leadership and employees' PEB when D-PEB, innovative environmental leadership framework and creative friendly environment are controlled. Therefore, this study provides the following recommendations:

1. As significant relationship has been established between environmental leadership and employees' PEB, university management should develop and communicate a clear environmental vision and strategy that integrates sustainability into the institution's mission and goals.
2. Environmental committee should be constituted and tasked to develop and implement an environmental policy that outlines the institution's commitment to sustainability and promote environmental awareness across the institution.
3. Management must ensure regular training and education programs are provided for employees on environmental issues, sustainability, and PEB. Besides, employees must also be encouraged to participate in environmental initiatives and decision-making processes through regular feedback mechanisms.
4. Finally, university management should promote recycling and reduction of energy consumption by regular sensitization of employees through proper disposing of waste, reducing paper usage, and encourage them to turn off lights, computers, and other equipment when not in use.

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