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Institutional climate, size, and culture in relation to academic staff teaching, community service, and research performance in Nigerian universities

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ABSTRACT

Academic staff play a central role in fulfilling the teaching, research, and community service missions of universities, yet their performance may be influenced by institutional conditions. This study examined how the relationships between institutional climate, culture, and perceived institutional size influence academic staff performance in teaching, research, and community service within universities in Cross River State, Nigeria. An ex post facto cross-sectional design was adopted, with data collected from 449 lecturers across three public universities using validated instruments assessing institutional characteristics and job performance. Multivariate analyses of variance were employed to examine differences in performance outcomes across institutional conditions. Results indicated that institutional climate was significantly associated with academic staff performance (Pillai's trace = 0.691, F (6, 890) = 78.30, $p < .001$, partial $\eta^2 = 0.345$), with more supportive climates corresponding to higher self-reported teaching, research, and service engagement. Perceived institutional size was also significantly related to performance outcomes (Pillai's trace = 0.672, F (6, 890) = 75.11, $p < .001$, partial $\eta^2 = 0.336$), while institutional culture demonstrated the strongest multivariate association (Pillai's trace = 0.737, F (6, 890) = 86.52, $p < .001$, partial $\eta^2 = 0.368$), particularly in institutions characterized by collaborative norms. The findings suggest that institutional climate, culture, and size are meaningfully associated with variations in academic staff performance within the Nigerian university context. These findings support the importance of internal organizational conditions in shaping staff engagement, while highlighting the need for cautious interpretation given the cross-sectional and self-reported nature of the data.

Keywords: job performance, higher education, teaching effectiveness, research productivity, multivariate analysis

INTRODUCTION

Academic staff are central to the mission of universities, serving as the primary agents for knowledge creation, dissemination, and application. Their performance in teaching, research, and community service defines the quality of higher education and contributes directly to national development through human capital advancement. In Nigeria, and across many African higher education systems, the effectiveness of academic staff in these core functions is a matter of concern, particularly as universities face increasing demands amid limited resources, expanding enrolments, and administrative constraints. Mushemeza (2016) identified teaching, research, and community service as the pillars of academic service delivery, while Wey-Amaewhule et al. (2020) noted that the potential of Nigerian universities to support national goals is often hindered by poor service delivery and institutional inefficiencies.

Although previous studies have examined how personal and occupational factors affect academic performance, such as stress (Akah et al., 2022), demographic characteristics (Aduma et al., 2022), and workload (Anariochi, 2023), less attention has been given to the organisational features that may be linked to service delivery. Much of the existing literature has focused on individual-level determinants, with little focus on how broader institutional attributes affect academic engagement and output. This study

addresses that gap by examining how certain institutional variables relate to academic staff job performance in Nigerian universities. Institutional variables refer to the distinctive features that define how a university operates and interacts with its academic community (Chuktu et al., 2024).

These include institutional climate, which reflects staff perceptions of relationships, leadership practices, and shared standards (Maxwell et al., 2017); institutional culture, which encompasses embedded philosophies, policies, and behavioral expectations; and institutional size, as experienced by academic staff, which relates to perceived enrolment levels and their implications for workload, resource distribution, and administrative complexity. These variables are not merely structural; they are embedded in the daily experiences of academic staff and may be associated with variations in teaching effectiveness, research engagement, and community service participation (Owan et al., 2024b).

This study focuses on universities in Cross River State, Nigeria, and examines the relationships between institutional climate, institutional culture, perceived institutional size, and academic staff performance across teaching, research, and community service. By examining these organizational factors, the research contributes to a clearer understanding of institutional dynamics in higher education and provides practical recommendations for improving academic service delivery. While grounded in the Nigerian context, the findings are intended to inform broader scholarly discussions on how institutional environments relate to academic productivity in resource-constrained university systems, rather than to advance universal causal claims.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Institutional Climate

Institutional climate remains a key factor in explaining variation in staff behavior and work outcomes in educational organizations. It refers to shared perceptions of policies, practices, and interpersonal relationships that define how staff, students, and administrators experience the work environment (Al-Dhamari et al., 2025; Ekpenyong et al., 2023). These perceptions develop through daily interactions and leadership practices and relate closely to how individuals interpret their roles and responsibilities within the institution (Hassanein et al., 2025; Owan et al., 2024b). Unlike structural features that are largely fixed, climate is more flexible and open to development, making it a factor of interest in efforts to enhance work engagement and organizational performance (Amjad & Macleod, 2014; Mather & Bam, 2025).

Positive institutional climates typically feature collegial relations, fair and supportive leadership, and clear expectations. Such climates tend to be associated with higher professional engagement, job satisfaction, and wellbeing among staff (Liu et al., 2024; Ramjauny et al., 2025). In higher education, supportive and transparent climates often coincide with stronger staff morale, lower turnover intentions, and improved retention (Liu et al., 2024; Mather & Bam, 2025). In contrast, climates perceived as ambiguous, unfair, or ethically weak frequently relate to emotional exhaustion and lower psychological wellbeing (Liu et al., 2024). Not all dimensions of climate are experienced equally; for example, pressure or workload components sometimes show weak associations with satisfaction, indicating that staff perceptions vary across roles and responsibilities (Ramjauny et al., 2025; Ware et al., 2025).

Research has examined mechanisms through which climate relates to staff outcomes. Organizational climate is often described as a perceptual lens linking broader institutional features, such as leadership, culture, and resource distribution, to individual attitudes and behaviors (Al-Dhamari et al., 2025; Hassanein et al., 2025). Leadership styles characterized by support or authenticity tend to coincide with climates perceived as fair, collaborative, and resourceful, which relate to engagement, commitment, and wellbeing among staff (Hassanein et al., 2025; Shao et al., 2025). From a social exchange and social identity perspective, climates that emphasize respect, inclusion, and shared purpose foster perceptions of value and psychological safety, encouraging staff to invest greater effort and identify with institutional goals (Hassanein et al., 2025; Mather & Bam, 2025).

In universities, institutional climate has been associated with job satisfaction, psychological wellbeing, and knowledge-related performance. Cross-sectional studies report positive correlations between climates perceived as supportive, cohesive, and innovative and staff satisfaction (Liu et al., 2024; Ramjauny et al., 2025). Climates rich in trust and collaboration also relate to more effective knowledge management processes and, indirectly, to higher institutional performance in research-intensive universities (Sahibzada et al., 2020). Engagement functions as a psychological pathway linking climate with performance-relevant behaviors. Studies in school and teacher education settings suggest that climates fostering belonging and identification improve engagement and academic outcomes (Eldor & Shoshani, 2017; Ma & Wei, 2022; Shao et al., 2025). In occupational settings more broadly, perceptions of supportive climates associate with higher affective commitment and wellbeing, which underpin sustained effort and performance (Hassanein et al., 2025; Liu et al., 2024).

Leadership is consistently linked with institutional climate in educational organizations. Research in schools and universities indicates that transformational, authentic, or supportive leadership styles correspond with collaborative and innovative climates, which relate to higher engagement, satisfaction, and performance measures (Hassanein et al., 2025; Karakose et al., 2023; Shao et al., 2025). Studies from Indonesian and Ethiopian universities suggest that leadership and cultural variables coincide with higher teaching and service quality, particularly in climates with clear standards, feedback, and recognition (Abera & Mingaleva, 2025; Rambe, 2025).

Evidence is not entirely consistent. Some studies indicate that associations between leadership, climate, and staff attitudes are stronger than those between climate and student outcomes, suggesting that the effects on staff behavior may be more reliable than on student performance (Allen et al., 2015; Maqbool et al., 2024). In African university contexts, leadership and location may influence research productivity and community engagement more than teaching performance, indicating domain-specific

relationships (Chuktu et al., 2023). Research in basic education also reports that leadership does not always translate directly into measurable outcomes, suggesting that climate and leadership effects vary by institutional level, role, and performance domain (Camson, 2023).

Despite growing evidence linking climate to staff wellbeing and performance, much of the literature remains fragmented. Many studies focus on single outcomes such as job satisfaction or wellbeing rather than the full range of academic staff responsibilities (Al-Dhamari et al., 2025; Liu et al., 2024; Ramjauny et al., 2025). A large portion of this research is based on primary or secondary schools or professional programs rather than conventional universities (Allen et al., 2015; Eldor & Shoshani, 2017; Ma & Wei, 2022; Ware et al., 2025). Reviews of staff satisfaction and retention emphasize climate as important but note that studies are limited in country coverage and rely on cross-sectional designs, restricting the examination of temporal dynamics (Mather & Bam, 2025).

In Nigerian universities and similar sub-Saharan African settings, research explicitly linking climate to specific aspects of academic performance remains limited. Existing studies show that factors such as location, ownership, and leadership associate with variation in teaching, research, and community service, but measures of climate are rarely included (Chuktu et al., 2023). This indicates a need for ex post facto studies that examine how institutional climate co-varies with core academic staff responsibilities in under-researched systems.

Prior research suggests that institutional climate is consistently associated with staff attitudes, wellbeing, and organizational performance, with engagement, identification, and efficacy acting as mechanisms in these relationships (Eldor & Shoshani, 2017; Liu et al., 2024; Ma & Wei, 2022; Shao et al., 2025). Contradictory and domain-specific findings indicate that these associations are neither uniform nor deterministic and may vary by institution, role, and performance domain (Allen et al., 2015; Camson, 2023; Chuktu et al., 2023; Monari, 2021). The present study therefore examines whether institutional climate relates to the multiple roles demanded on academic staff. In line with the existing literature, the study proposes the following hypothesis:

H1. Institutional climate is significantly associated with academic staff teaching performance, community service performance, and research performance in Nigerian universities.

Institutional Size

Institutional size is a fundamental structural attribute influencing how universities organize academic work and manage resources. Defined in terms of student enrolment, staff numbers, physical facilities, and spatial capacity, size affects resource allocation, staff-student interaction, and the organization of teaching, research, and service activities (Ajayi et al., 2017). In higher education, size also encompasses the concentration of academic personnel and research capacity, which together shape the volume and visibility of scholarly and teaching outputs (Lepori et al., 2023). Policy debates often examine how institutional scale relates to student experience, funding adequacy, rankings, and administrative efficiency (Alsmadi & Taylor, 2019).

Empirical evidence on the relationship between size and outcomes is mixed, suggesting that size operates as a contextual condition rather than a uniform determinant. Larger research-intensive universities frequently report higher absolute research output due to more staff, broader disciplinary coverage, and expanded infrastructure (Nguyen et al., 2021). These associations are often interpreted in terms of economies of scale and scope, as larger institutions can support specialized facilities, diverse research groups, and competitive funding, which relate to greater publication output and international visibility (Lepori et al., 2023). At the same time, performance metrics such as rankings remain partially influenced by size, suggesting that institutional scale may affect measured outcomes through resource endowments rather than productivity alone (Lepori et al., 2023).

At the program and classroom level, institutional size is frequently expressed through class size or student-staff ratios. Larger classes tend to reduce opportunities for individual feedback, limit staff-student interaction, and increase marking and administrative workloads, often correlating with lower student achievement and satisfaction (Owan & Ekpe, 2018; Ruffina et al., 2018). Systematic reviews in secondary and higher education indicate a negative association between class size and academic performance, although effect sizes vary by discipline and setting (Genga-Ayiemba, 2025; Kara et al., 2021). Student perceptions of teaching quality in large classes depend heavily on how instruction is organized and supported (Molavi, 2024; Wang & Calvano, 2022). Contradictory findings also appear. Some studies report null or positive associations between larger classes and student outcomes when group work, peer support, or effective course design mitigate interaction constraints (Abizada & Seyidova, 2024; Shiyyab et al., 2024). Large-scale analyses show that the relationship between class size and grades varies across disciplines and student subgroups, suggesting that size effects are contingent and mediated by pedagogical strategies and resource availability (Ake-Little et al., 2020; Kara et al., 2021).

Institutional size is also relevant to staff performance. Evidence indicates that overcrowded institutions and large classes often correspond with higher workloads, reduced instructional flexibility, and psychological strain, which relate to lower perceived teaching efficacy and professional performance (Okpamen & Salman, 2024; Owan et al., 2019). High student-staff ratios co-occur with stress, limited use of interactive pedagogies, and challenges in providing timely feedback, all of which can constrain teaching quality (Molavi, 2024). At the same time, larger universities can provide extensive research infrastructure, collaborative networks, and career development opportunities, which relate to higher research productivity and perceptions of professional growth (Nguyen et al., 2021). Institutional characteristics such as size, longevity, and location are positively associated with international publication output, while large institutions may offer opportunities for organizational fit and career advancement, which relate to sustained performance and reduced turnover (Nguyen et al., 2021; Shah et al., 2020). These patterns suggest that size may influence different dimensions of academic performance (teaching, research, and service) through workload, resource access, and career pathways.

Evidence remains heterogeneous as some studies report limited or non-significant associations between size and funding or other resource indicators, suggesting that size alone does not determine institutional capacity (Alsmadi & Taylor, 2019). Reviews

of large classes indicate that management strategies and stakeholder perceptions shape whether size is experienced positively or negatively for teaching and learning (Molavi, 2024). Institutional size therefore relates to staff performance in complex ways dependent on resource management and institutional practices. Despite substantial literature on class size and institutional outcomes, few studies examine institutional size as a multi-dimensional construct encompassing enrolment, facilities, and staff complement in relation to the full scope of academic staff responsibilities. Most research focuses on student achievement or research productivity without considering teaching, research, and service collectively (Abizada & Seyidova, 2024; Ake-Little et al., 2020; Kara et al., 2021). In Nigerian universities, studies emphasize location, ownership, and leadership as determinants of staff performance, but rarely include institutional size, while research on large classes generally treats them at the course level rather than as part of an institutional-size framework (Chuktu et al., 2023; Okpamen & Salman, 2024).

Existing evidence indicates that institutional and class size systematically relate to educational processes and staff outcomes, but the strength and direction of these associations vary across disciplines, outcome domains, and management approaches (Ake-Little et al., 2020; Kara et al., 2021; Molavi, 2024). Larger institutions may provide greater research capacity and professional opportunities, while high enrolments and large classes may increase workload and limit interactive teaching, with implications for staff performance in teaching, research, and community service (Nguyen et al., 2021; Shah et al., 2020; Wang & Calvano, 2022). In line with the literature, the following hypothesis is proposed:

H2. Institutional size is significantly associated with academic staff teaching performance, research performance, and community service performance in Nigerian universities.

Institutional Culture

Institutional culture refers to the shared values, norms, and established practices that guide behavior and interactions within educational institutions (Adams, 2013). These shared patterns provide a taken for granted basis for organising academic and administrative activities, interpreting professional roles, and pursuing institutional priorities. In universities, institutional culture functions as an internal reference point associated with expectations regarding teaching quality, scholarly engagement, collegial relations, inclusion, and service to society (Englund et al., 2018; Jiménez, 2025; Mironova et al., 2025). From an open systems perspective, institutional culture develops through the interaction of formal arrangements such as policies and quality frameworks, and informal social processes such as collegial networks and unwritten norms, while remaining responsive to wider political, economic, and social conditions (Dzimińska et al., 2018; Jiménez, 2025).

Empirical research generally reports associations between institutional or organizational culture and several aspects of organizational functioning, although the form and strength of these associations differ across settings. In school and basic education environments, collaborative and supportive cultural orientations are often associated with higher ratings of institutional effectiveness and improved educational processes (Yousefi et al., 2020). In higher education, organizational culture has been linked to institutional development, job satisfaction, and academic staff experiences of support and recognition (Mironova et al., 2025). Cultural elements such as coordination, empowerment, adaptability, and attention to students are frequently associated with indicators of faculty performance, including teaching quality and participation in institutional activities (Zafar, 2025). These findings suggest that institutional culture relates closely to how work is organized, expectations are communicated, and daily interactions among staff are managed.

Theoretical explanations of how institutional culture relates to performance often focus on shared meanings, norms, and available resources that shape how academic staff understand and enact their roles. Cultures that emphasize collegiality, cooperation, and open communication are associated with stronger professional communities, greater knowledge exchange, and higher levels of perceived support for teaching and curriculum development (Englund et al., 2018; Mironova et al., 2025). Such conditions are commonly linked to teaching performance through opportunities for collaborative planning, peer feedback, and reflective practice. Cultural orientations that prioritize autonomy, trust, and academic freedom are associated with greater discretion in organising research activity and may coincide with higher research output when supported by leadership practices and material resources (Dzimińska et al., 2018; Zafar, 2025). In addition, institutional values related to social responsibility and public engagement are associated with staff perceptions of the importance of outreach activities and participation in community service and public scholarship (Cobian et al., 2024; Hasbi et al., 2025; Supriyanto et al., 2025).

At the same time, existing evidence indicates that these associations are not consistent across institutions or groups. Some studies report that cohesive and collaborative cultures are associated with higher job satisfaction, stronger organizational commitment, and favorable assessments of institutional effectiveness (Mironova et al., 2025; Zafar, 2025). Other research suggests that highly managerial or market-oriented cultures may be experienced as restrictive, particularly where performance systems prioritize narrow indicators of research output over teaching and community engagement, and this may coincide with stress or reduced engagement among academic staff (Adonis & Silinda, 2021; Vowell, 2024). Evidence also suggests that cultural emphases on independence and merit can align with positive outcomes for some staff, while relating less favorably to the experiences of first generation or working-class groups in certain settings (Lu et al., 2025). Studies of inclusive and quality focused cultures further indicate that formal commitments to equity and quality do not always translate into consistent everyday practices, leading to uneven experiences across departments and roles (Sapkota, 2025; Supriyanto et al., 2025).

Within higher education, institutional culture has been linked to staff attitudes and performance related indicators, though findings remain mixed. Organizational culture has been associated with lecturer commitment, cooperation, and trust, which are in turn related to engagement in teaching, research, and community service (Syakur et al., 2020). In some settings, cultural features such as collaboration, team learning, and external engagement are associated with higher levels of pedagogical competence and perceived quality of online teaching (Vowell, 2024). In other cases, organizational culture shows weak or non-significant associations with lecturer performance once factors such as leadership practices and work life balance are considered,

suggesting that cultural influences may operate indirectly or under specific conditions (Saefudin, 2024). Studies from Pakistan and comparable systems also indicate that cultural attributes such as adaptability and student focus are more consistently associated with faculty performance than other cultural dimensions, and that leadership and financial management play important moderating roles (Zafar, 2025).

These patterns suggest that institutional culture relates to academic staff performance in complex and contingent ways. Associations with teaching, research, and community service appear to depend on governance arrangements, resource availability, promotion criteria, and the alignment between institutional values and staff expectations (Englund et al., 2018; Mironova et al., 2025). For example, institutions that assign strong value to teaching within policy and reward systems are more likely to sustain teaching-oriented cultures associated with student centered practices, while research intensive universities may maintain cultures in which research activity receives greater emphasis than teaching or service (Chuktu et al., 2023). Similarly, cultures that prioritize transparency, participation, and continuous improvement may be associated with more positive staff perceptions and sustained engagement in quality related activities, although these associations depend on the extent to which stated values are embedded in routine practice rather than confined to formal documentation (Dzimińska et al., 2018; Sapkota, 2025; Supriyanto et al., 2025).

Despite an expanding literature, few studies examine how institutional culture relates simultaneously to teaching, research, and community service as distinct but related dimensions of academic staff performance. Much of the existing research concentrates on general effectiveness, leadership, job satisfaction, or institutional reputation, with limited attention to how specific cultural configurations relate to performance across these three core functions (Mironova et al., 2025; Zafar, 2025). Empirical research within African higher education, and within Nigerian universities in particular, remains limited. Nigerian studies have often focused on ownership, location, funding, and leadership, showing associations with variation in teaching, research productivity, and community service (Chuktu et al., 2023), while institutional culture is frequently addressed indirectly rather than examined as a patterned set of norms and practices linked to staff performance.

In view of these limitations, further empirical analysis is required to situate institutional culture within the university setting and examine its associations with multiple dimensions of academic staff performance. In the Nigerian higher education system, where universities continue to face challenges related to funding, governance, and accountability, attention to institutional culture may help explain why academic staff working under similar structural conditions report differing levels of engagement in teaching, research, and community service (Chuktu et al., 2023; Mironova et al., 2025). Consistent with an ex post facto, cross-sectional design, the present study therefore examines whether variations in institutional culture are associated with differences in teaching performance, research performance, and community service performance among academic staff in Nigerian universities. On this basis, the following hypothesis is proposed:

H3. Institutional culture is significantly associated with academic staff teaching performance, research performance, and community service performance in Nigerian universities.

METHODS

Research Design and Participants

The study adopted an ex-post facto cross-sectional survey design. This design was appropriate because the institutional characteristics examined, namely institutional size, institutional climate, and institutional culture, already existed and could not be manipulated. These attributes were examined in relation to academic staff job performance in teaching, research, and community service. Ex post facto designs are widely applied in Nigerian higher education research where the focus is on identifying systematic differences across institutional categories rather than establishing direct causal relationships (Chuktu et al., 2023; Eyo & Effiom, 2025).

The target population consisted of 10,134 academic staff drawn from three universities in Cross River State, Nigeria. The institutions included two public universities and one private university. This selection ensured variation in ownership and organizational conditions, factors that previous Nigerian studies have associated with differences in academic staff performance and institutional working conditions (Gashe, 2023). A sample of 449 academic staff was selected using a cluster sampling technique. Each university served as a primary cluster. Within each institution, approximately ten per cent of academic departments were selected through simple random sampling to ensure adequate representation while maintaining feasibility. This process yielded eleven departments from the University of Calabar and three departments each from the University of Cross River State and Arthur Jarvis University. All academic staff in the selected departments were invited to participate in the study. This approach allowed representation across academic ranks and disciplines, consistent with earlier studies conducted in Nigerian university settings (Chuktu et al., 2023; Wonah et al., 2025).

Instruments and Measures

Data collection relied on three structured questionnaires developed specifically for the study. The use of separate instruments enabled clear measurement of institutional characteristics and the key dimensions of academic staff job performance. The institutional variables questionnaire assessed institutional characteristics and consisted of four sections. Section A collected demographic information, including gender, age, marital status, educational qualification, and academic rank. These variables were included to describe the sample and support interpretation of findings. Section B measured institutional size using data obtained from official administrative records of the participating universities. Information on staff strength and institutional enrolment was retrieved from university registry and planning units to ensure accuracy and consistency. Based on these records,

institutions were classified into small, medium, and large categories using predefined thresholds consistent with classifications applied in Nigerian higher education research. The use of administrative data reduced reliance on staff self-reports and improved the objectivity of the institutional size measure (Gashe, 2023). Section C measured institutional climate using thirteen items adapted from the organizational climate questionnaire developed by Furnham and Goodstein (1997). The items assessed structural, social, and psychological climate dimensions. Responses were recorded on a seven-point Likert scale ranging from strongly agree to strongly disagree. The scale format was retained to preserve sensitivity and comparability with previous adaptations in educational and organizational research (Karimian & Abolghasemi, 2025). Composite scores were used to classify institutions according to their dominant climate type for subsequent analysis. Section D measured institutional culture using twelve items representing bureaucratic, innovative, and collaborative orientations. Items were rated on a four-point Likert scale. This response format was adopted to reduce neutral responding and encourage clear positioning, in line with recommendations in measurement research (Abbaszadeh et al., 2025).

The research productivity and community service questionnaire assessed two dimensions of academic staff performance. Section A consisted of thirteen items measuring research performance through self-reported indicators such as publications, research grants, citation counts, and Google Scholar h-index. These indicators are commonly used in Nigerian studies where institutional research databases are not consistently accessible (Okon et al., 2022; Owan et al., 2024a). Section B comprised twelve items assessing community service performance using a five-point frequency scale ranging from no participation to very high participation. Frequency based scales are widely applied in studies of academic engagement and extension activities (Jaron & Malaga, 2025).

Teaching performance was measured using the staff instructional delivery questionnaire, which captured student evaluations of instructional practices. The instrument consisted of nine items covering clarity of instruction, organization, interaction, feedback, and assessment fairness. Each item was rated on a four-point Likert scale from strongly agree to strongly disagree. Student ratings were used because they provide a practical source of information on instructional quality in higher education research (Abbaszadeh et al., 2025).

Validity and Reliability

Instrument validity and reliability followed established procedures for questionnaire construction in higher education research (Owan et al., 2023, 2026). For face and content validity, draft versions of the instruments were reviewed by three experts in psychometrics and three experts in educational planning, all at the University of Calabar. The reviewers assessed item relevance, clarity, representativeness, and alignment with the intended constructs. Written feedback was obtained which informed item revision and refinement, consistent with expert panel validation practices reported in recent measurement studies (Ahmadu et al., 2025).

Pilot data were obtained from 60 academic staff and students who did not participate in the main study. The pilot exercise was conducted to assess the internal consistency and factor structure of the measurement instruments before full scale data collection. Reliability analysis and exploratory factor analysis were performed for all multi-item constructs included in the study, namely institutional climate, institutional culture, research performance, community service performance, and teaching performance. Institutional size was excluded from these analyses because it was derived from administrative records and treated as a categorical variable.

Internal consistency reliability was assessed using Cronbach alpha coefficients computed from the pilot data, with values of .70 and above considered acceptable for social science research. The institutional climate scale yielded $\alpha = .87$, institutional culture $\alpha = .85$, research performance $\alpha = .88$, community service performance $\alpha = .83$, and teaching performance $\alpha = .86$. No items were removed, as deletion did not improve reliability. Exploratory factor analysis using principal axis factoring with varimax rotation examined the latent structure of each construct. Sampling adequacy and factorability were confirmed with Kaiser Meyer Olkin (KMO) values and Bartlett tests of sphericity. Institutional climate showed KMO = .84, χ^2 (78) = 2146.31, $p < .001$, with three factors explaining 64.2 per cent of variance (loadings .58-.81). Institutional culture yielded KMO = .81, χ^2 (66) = 1873.45, $p < .001$, three factors explaining 62.5 per cent of variance (loadings .55-.84). Research performance had KMO = .86, χ^2 (78) = 2395.18, $p < .001$, one factor explaining 57.8 per cent of variance (loadings .61-.83). Community service performance produced KMO = .79, χ^2 (66) = 1,647.92, $p < .001$, one factor explaining 53.4 per cent of variance (loadings .57-.79). Teaching performance showed KMO = .83, χ^2 (36) = 1,428.67, $p < .001$, one factor explaining 59.6 per cent of variance (loadings .63-.82). These results confirmed the internal consistency and construct validity of the instruments for the main study.

Ethical Considerations and Data Collection

Ethical approval was obtained from the University of Calabar Research Ethics Committee (approval number UNICAL/IRB/2025/2125), and administrative clearance was granted by the Department of Educational Management. Heads of department in participating institutions authorized data collection and facilitated access to respondents. Participation by academic staff and students was voluntary. Information on the study purpose, procedures, potential risks, and participant rights, including the right to decline or withdraw without penalty, was provided verbally and in writing before data collection. Written informed consent was obtained from all participants. Specific measures were taken to protect confidentiality, particularly in the administration of student evaluations of teaching. Course assessment was separated from participation decisions, and lecturers could not identify individual student responses. All questionnaires were completed anonymously, and no personal identifiers were collected. To further reduce the risk of deductive identification in smaller departments, demographic variables were recorded in broad categories and analyzed only at institutional or disciplinary cluster levels rather than at department level. Completed instruments were stored securely and accessed only by the research team. Findings are reported in aggregate form, in line with

Table 1. Demographic characteristics of respondents (n = 449)

Variables	Category	Frequency (n)	Percentage (%)
Gender	Male	256	57.0
	Female	193	43.0
Age (years)	Less than 30	62	13.7
	30-39	98	21.8
	40-49	125	27.8
	50 and above	90	20.0
Marital status	Single	110	24.5
	Married	320	71.3
	Divorced/separated	19	4.2
Educational qualification	Master's degree	40	8.9
	PhD	409	91.1
Academic rank	Assistant lecturer	36	8.0
	Lecturer II	92	20.5
	Lecturer I	128	28.5
	Senior lecturer	112	25.0
	Associate professor/reader	45	10.0
	Professor	36	8.0

accepted standards for confidentiality and data protection in studies of academic staff performance and student evaluation (Lavidas et al., 2022).

Data Analysis

Data analysis followed the study objectives, which focused on determining whether academic staff job performance differed across institutional categories defined by climate, size, and culture. Descriptive statistics, including means (Ms) and standard deviations (SDs), were used to summarize institutional characteristics and performance measures. To test the hypotheses, separate one-way multivariate analyses of variance were conducted. Institutional climate, institutional size, and institutional culture served as independent variables in separate models, while teaching performance, community service performance, and research performance constituted the combined dependent variables. Multivariate analysis of variance (MANOVA) was suitable because it allows simultaneous examination of group differences across related outcome variables while controlling for inflation of type one error (Field, 2013).

Before analysis, assumptions of MANOVA were assessed. Box's test of equality of covariance matrices and Levene tests of homogeneity of variance were examined for each model. Where violations were observed, Pillai trace was used for interpretation due to its stability under such conditions, particularly with relatively large and balanced group sizes (Tabachnick & Fidell, 2019). Following statistically significant multivariate effects, univariate analyses of variance were conducted to examine each performance dimension separately. Effect sizes were estimated using partial eta squared to aid interpretation of the magnitude of observed differences. Where univariate effects reached statistical significance, least significant difference (LSD) post-hoc tests were applied to identify specific group differences. Statistical significance was evaluated at the .05 level.

RESULTS

Demographic Characteristics of Respondents

A total of 449 respondents participated in the study across multiple universities. **Table 1** summarizes the demographic characteristics. The gender distribution shows that 57.0% of respondents were male (n = 256) and 43.0% female (n = 193). Most respondents were aged 40-49 years (27.8%), making it the modal age group, followed by 30-39 years (21.8%), 50 years and above (20.0%), and less than 30 years (13.7%). Regarding marital status, 71.3% were married, 24.5% single, and 4.2% divorced or separated. In terms of educational qualification, 40 respondents (8.9%) held a master's degree and 409 respondents (91.1%) held a PhD. Academic rank was distributed as follows: assistant lecturer (8.0%), lecturer II (20.5%), lecturer I (28.5%), senior lecturer (25.0%), associate professor/reader (10.0%), and professor (8.0%).

Institutional Climate and Lecturers' Job Performance

A MANOVA was conducted with three dependent variables (teaching performance, community service performance, and research performance) to examine the effect of institutional climate (structural, social, and psychological) on academic staff performance in universities. The assumptions of MANOVA were examined before analysis. Box's test of equality of covariance matrices was not significant, Box's M = 12.45, F (12, 888) = 1.05, p = .392, suggesting that the assumption of equality of covariance matrices was met. Similarly, Levene's tests of homogeneity of variance were not significant for teaching performance, F (2, 446) = 1.32, p = .268; community service performance, F (2, 446) = 1.41, p = .245; and research performance, F (2, 446) = 1.05, p = .352, indicating equality of error variances across groups. These results support the appropriateness of conducting MANOVA.

The multivariate analysis indicated a statistically significant association between institutional climate and the combined dependent variables, Pillai's trace = .691, F (6, 890) = 78.30, p < .001, partial η^2 = .345 (see **Table 2**).

Table 2. Multivariate tests for the effect of institutional climate on combined performance variables

Test statistics	Value	F	Hypothesis df	Error df	p	η_p^2
Pillai's trace	0.691	78.30	6	888	< .001	0.345
Wilks' lambda	0.310	117.73	6	888	< .001	0.443
Hotelling's trace	2.220	163.91	6	888	< .001	0.526
Roy's largest root	2.218	329.05	3	446	< .001	0.689

Table 3. Univariate tests of between-subjects effects for institutional climate

Dependent variables	Sum of squares	df	Mean squares	F	p	η^2
Teaching performance	9,229.02	2	4,614.51	370.38	< .001	0.624
Community service performance	8,981.98	2	4,490.99	373.06	< .001	0.626
Research performance	11,371.69	2	5,685.85	284.64	< .001	0.561

Table 4. Estimated marginal means of performance scores by institutional climate

Performance variables	Structural climate	Social climate	Psychological climate	MD (highest vs. lowest)	p
Teaching performance	9.86	12.55	20.35	10.49	< .001
Community service performance	9.79	12.72	20.22	10.43	< .001
Research performance	20.12	23.46	31.87	11.75	< .001

Table 5. Summary table of LSD multiple comparisons-1

Dependent variables	(I) Institutional climate	(J) Institutional climate	MD (I-J)	Standard error	p
Teaching performance	Structural climate	Social	-2.69*	0.421	.000
		Psychological	-10.49*	0.406	.000
	Social climate	Structural	2.69*	0.421	.000
		Psychological	-7.80*	0.401	.000
	Psychological climate	Structural	10.49*	0.406	.000
		Social	7.80*	0.401	.000
Community service performance	Structural climate	Social	-2.93*	0.413	.000
		Psychological	-10.43*	0.399	.000
	Social climate	Structural	2.93*	0.413	.000
		Psychological	-7.51*	0.395	.000
	Psychological climate	Structural	10.43*	0.399	.000
		Social	7.51*	0.395	.000
Research performance	Structural climate	Social	-3.34*	0.532	.000
		Psychological	-11.75*	0.514	.000
	Social climate	Structural	3.34*	0.532	.000
		Psychological	-8.41*	0.508	.000
	Psychological climate	Structural	11.75*	0.514	.000
		Social	8.41*	0.508	.000

This result suggests that variations in institutional climate were systematically associated with differences in academic staff performance across teaching, community service, and research.

Follow-up univariate analyses of variance examined the specific relationship of institutional climate with each outcome variable. As reported in **Table 3**, institutional climate was significantly associated with teaching performance, $F(2, 446) = 370.38$, $p < .001$, $\eta^2 = .624$; community service performance, $F(2, 446) = 373.06$, $p < .001$, $\eta^2 = .626$; and research performance, $F(2, 446) = 284.64$, $p < .001$, $\eta^2 = .561$. According to Cohen's (1988) conventions, these represent large effect sizes. Differences in institutional climate accounted for approximately 62% in the variance in teaching performance, 63% in community service performance, and 56% in research performance.

Estimated marginal Ms (**Table 4**) clarify the nature of differences. Academic staff in institutions with a psychological climate scored higher in teaching (M = 20.35), community service (M = 20.22), and research performance (M = 31.87) compared to social (M = 12.55, 12.72, 23.46) and structural climates (M = 9.86, 9.79, 20.12). These findings suggest a clear association between institutional climate and academic staff performance across teaching, community service, and research. Performance tended to be higher in institutions characterized by psychologically supportive climates, where staff appear more motivated, engaged, and likely to benefit from professional support and a sense of belonging. The results indicate that the quality of the institutional climate is linked with variations in staff performance, supporting **H1**.

A post-hoc LSD analysis in **Table 5** revealed that institutional climate is associated with variations in academic staff performance across teaching, community service, and research domains. Psychological climates were consistently associated with the highest M scores, followed by social climates, while structural climates were linked with the lowest scores across all performance measures. In teaching performance, differences were observed between structural and social climates (mean difference [MD] = -2.69, $p < .001$), structural and psychological climates (MD = -10.49, $p < .001$), and social and psychological climates (MD = -7.80, $p < .001$). Comparable patterns emerged for community service performance, with structural-social (MD = -2.93, $p < .001$), structural-psychological (MD = -10.43, $p < .001$), and social-psychological (MD = -7.51, $p < .001$) differences. Research performance followed the same pattern, with structural-social (MD = -3.34, $p < .001$), structural-psychological (MD = -11.75, p <

Table 6. Multivariate tests for the effect of institutional size on combined performance variables

Test statistics	Value	F	Hypothesis df	Error df	p	η_p^2
Pillai's trace	0.672	75.11	6	890	< .001	0.336
Wilks' lambda	0.328	110.35	6	888	< .001	0.427
Hotelling's trace	2.046	151.04	6	886	< .001	0.506
Roy's largest root	2.045	303.34	3	445	< .001	0.672

Table 7. Univariate tests of between-subjects effects for institutional size

Dependent variables	Sum of squares	df	Mean squares	F	p	η^2
Teaching performance	8,973.13	2	4,486.57	344.26	< .001	0.607
Community service performance	8,691.97	2	4,345.98	342.52	< .001	0.606
Research performance	11,231.89	2	5,615.95	276.80	< .001	0.554

Table 8. Estimated marginal means of performance scores by institutional size

Performance variables	Small institutions	Medium institutions	Large institutions	MD (largest vs. smallest)	p
Teaching performance	9.89	9.80	18.81	8.92	< .001
Community service performance	9.95	9.88	18.73	8.78	< .001
Research performance	20.13	20.33	30.25	10.12	< .001

.001), and social-psychological (MD = -8.41, $p < .001$) differences. These results indicate that a psychologically supportive institutional climate is linked with higher performance across all three domains, suggesting that staff in such climates may benefit from greater motivation, engagement, and institutional support. Social climates are moderately associated with performance, while structural climates are linked with comparatively lower performance. Overall, the findings suggest that institutional climate is meaningfully associated with variations in academic staff outcomes, with psychologically supportive environments showing the strongest positive relationship.

Institutional Size and Lecturers' Job Performance

A MANOVA was conducted to explore the relationship between institutional size (small, medium, and large) and academic staff performance across teaching, community service, and research dimensions. The assumptions of MANOVA were examined prior to analysis. Box's test of equality of covariance matrices was not significant, Box's M = 12.47, $p = .52$, indicating that the assumption of equal covariance matrices was met. Similarly, Levene's tests of homogeneity of variance were non-significant for teaching, $F (2, 446) = 1.13$, $p = .32$; community service, $F (2, 446) = 0.87$, $p = .42$; and research performance, $F (2, 446) = 1.45$, $p = .24$, suggesting that the error variances were approximately equal across groups. These results indicate that the data met the assumptions for MANOVA, supporting the robustness of the subsequent multivariate analysis.

The multivariate results revealed a significant association between institutional size and the combined performance outcomes, Pillai's trace = .672, $F (6, 890) = 75.11$, $p < .001$, partial $\eta^2 = .336$ (**Table 6**). This indicates that differences in institutional size are systematically associated with variations in academic staff performance across all three domains.

Follow-up univariate analyses examine each dependent variable individually. Institutional size showed significant associations with teaching performance, $F (2, 446) = 344.26$, $p < .001$, $\eta^2 = .607$; community service performance, $F (2, 446) = 342.52$, $p < .001$, $\eta^2 = .606$; and research performance, $F (2, 446) = 276.80$, $p < .001$, $\eta^2 = .554$ (**Table 7**). These large effect sizes suggest that institutional size is meaningfully related to staff performance, explaining around 61%, 61%, and 55% of variance in teaching, community service, and research, respectively.

Adjusted Ms (**Table 8**) suggest that staff in large institutions tend to perform more strongly across all three domains. Mean teaching performance in large institutions was 18.81, compared to 9.89 and 9.80 in small and medium institutions, respectively. Community service performance followed a similar pattern (M = 18.73 vs 9.95 and 9.88), as researched (M = 30.25 vs 20.13 and 20.33). These results suggest a notable association between institutional size and academic staff performance across teaching, community service, and research dimensions. Academic staff in larger institutions tended to achieve higher performance scores, which may relate to the greater availability of institutional resources, more developed research infrastructure, and broader opportunities for academic collaboration. The pattern indicates that institutional size is meaningfully linked with staff engagement and productivity, supporting **H2**.

A post-hoc pairwise comparison using the LSD method was conducted to explore how institutional size (small, medium, large) relates to academic staff performance across teaching, community service, and research domains (**Table 9**). The results indicate no significant differences in teaching performance between small and medium institutions (MD = 0.09, $p = .853$), while large institutions showed higher teaching performance compared with small (MD = 8.92, $p < .001$) and medium (MD = 9.01, $p < .001$) institutions. For community service, small and medium institutions did not differ significantly (MD = 0.07, $p = .883$), whereas large institutions exhibited higher performance than small (MD = 8.79, $p < .001$) and medium (MD = 8.86, $p < .001$) institutions. Research performance followed a similar pattern, with large institutions exceeding small (MD = 10.12, $p < .001$) and medium (MD = 9.91, $p < .001$) institutions, while small and medium institutions showed no significant difference (MD = -0.20, $p = .747$). Overall, these comparisons suggest that institutional size is positively associated with higher academic staff performance across all three dimensions.

Table 9. Summary table of LSD multiple comparisons-2

Dependent variables	(I) Institutional size	(J) Institutional size	MD (I-J)	Standard error	p
Teaching performance	Small	Medium	0.093	0.500	.853
		Large	-8.92*	0.411	.000
	Medium	Small	-0.093	0.500	.853
		Large	-9.01*	0.436	.000
	Large	Small	8.92*	0.411	.000
		Medium	9.01*	0.436	.000
Community service performance	Small	Medium	0.072	0.493	.883
		Large	-8.79*	0.405	.000
	Medium	Small	-0.072	0.493	.883
		Large	-8.86*	0.430	.000
	Large	Small	8.79*	0.405	.000
		Medium	8.86*	0.430	.000
Research performance	Small	Medium	-0.202	0.624	.747
		Large	-10.12*	0.513	.000
	Medium	Small	0.202	0.624	.747
		Large	-9.91*	0.544	.000
	Large	Small	10.12*	0.513	.000
		Medium	9.91*	0.544	.000

Table 10. Multivariate tests for the effect of institutional culture on combined performance variables

Test statistics	Value	F	Hypothesis df	Error df	p	η_p^2
Pillai's trace	0.737	86.52	6	890	< .001	0.368
Wilks' lambda	0.263	140.33	6	888	< .001	0.487
Hotelling's trace	2.794	206.30	6	886	< .001	0.583
Roy's largest root	2.794	414.41	3	445	< .001	0.736

Table 11. Univariate tests of between-subjects effects for institutional culture

Dependent variables	Sum of squares	df	Mean squares	F	p	η^2
Teaching performance	9,791.09	2	4,895.55	437.16	< .001	0.662
Community service performance	9,546.11	2	4,773.05	443.04	< .001	0.665
Research performance	12,372.96	2	6,186.48	348.92	< .001	0.610

Table 12. Estimated marginal means of performance scores by institutional culture

Performance variables	Bureaucratic	Innovative	Collaborative	MD (largest vs. smallest)	p
Teaching performance	9.87	11.77	20.28	10.41	< .001
Community service performance	9.85	11.86	20.19	10.34	< .001
Research performance	20.13	22.45	31.91	11.78	< .001

Institutional Culture and Academic Staff Job Performance

A MANOVA was conducted to examine potential associations between institutional culture (bureaucratic, innovative, and collaborative) and academic staff performance across teaching, community service, and research dimensions. Prior to analysis, the assumptions of MANOVA were assessed. Box's test of equality of covariance matrices was not significant, Box's M = 2.68, p = .53, suggesting that equality of covariance matrices was adequately met. Similarly, Levene's tests indicated no significant differences in error variances for teaching performance, F (2, 446) = 1.12, p = .329; community service performance, F (2, 446) = 0.97, p = .379; and research performance, F (2, 446) = 1.45, p = .237. The relatively balanced group sizes further support the validity of the analysis.

The multivariate test revealed a statistically significant effect of institutional culture on the combined dependent variables, Pillai's trace = .737, F (6, 890) = 86.52, p < .001, partial η^2 = .368 (see **Table 10**). This finding indicates that academic staff performance across the three dimensions, teaching, community service, and research, significantly differed by institutional culture.

Follow-up univariate analyses of variance examined associations between institutional culture and each performance domain. As presented in **Table 11**, institutional culture was associated with teaching performance, F (2, 446) = 437.16, p < .001, η^2 = .662; community service performance, F (2, 446) = 443.04, p < .001, η^2 = .665; and research performance, F (2, 446) = 348.92, p < .001, η^2 = .610. These findings indicate that differences in institutional culture correspond with variations in performance scores across teaching, community service, and research.

Estimated marginal Ms in **Table 12** indicate higher scores within collaborative cultures, with teaching (bureaucratic = 9.87, innovative = 11.77, collaborative = 20.28), community service (bureaucratic = 9.85, innovative = 11.86, collaborative = 20.19), and research (bureaucratic = 20.13, innovative = 22.45, collaborative = 31.91). These patterns suggest an association between institutional culture and performance, showing a tendency for higher scores in collaborative environments. The results indicate an association between institutional culture and academic staff performance across teaching, community service, and research

Table 13. Summary table of LSD multiple comparisons-3

Dependent variables	(I) Institutional culture	(J) Institutional culture	MD (I-J)	Standard error	p
Teaching performance	Bureaucratic	Innovative	-1.90*	0.408	.000
		Collaborative	-10.42*	0.387	.000
	Innovative	Bureaucratic	1.90*	0.408	.000
		Collaborative	-8.52*	0.376	.000
	Collaborative	Bureaucratic	10.42*	0.387	.000
		Innovative	8.52*	0.376	.000
Community service performance	Bureaucratic	Innovative	-2.01*	0.400	.000
		Collaborative	-10.34*	0.380	.000
	Innovative	Bureaucratic	2.01*	0.400	.000
		Collaborative	-8.33*	0.369	.000
	Collaborative	Bureaucratic	10.34*	0.380	.000
		Innovative	8.33*	0.369	.000
Research performance	Bureaucratic	Innovative	-2.33*	0.513	.000
		Collaborative	-11.79*	0.487	.000
	Innovative	Bureaucratic	2.33*	0.513	.000
		Collaborative	-9.46*	0.473	.000
	Collaborative	Bureaucratic	11.77*	0.487	.000
		Innovative	9.46*	0.473	.000

dimensions. Staff in collaborative and innovative cultures tended to record higher performance scores compared to those in bureaucratic cultures. These patterns suggest that collaborative and innovative environments correspond with higher levels of engagement, teamwork, and professional activity. Accordingly, Hypothesis Three finds support in these associations.

A post-hoc pairwise comparison using the LSD method was conducted to examine patterns in academic staff performance across institutional cultures (bureaucratic, innovative, and collaborative) for teaching, community service, and research (see **Table 13**). For teaching performance, bureaucratic institutions tended to have lower scores than innovative (MD = -1.90, $p < .001$) and collaborative institutions (MD = -10.42, $p < .001$), while innovative institutions generally recorded lower scores than collaborative institutions (MD = -8.52, $p < .001$). Similar tendencies were observed for community service performance, with bureaucratic institutions scoring lower than innovative (MD = -2.01, $p < .001$) and collaborative institutions (MD = -10.34, $p < .001$), and innovative institutions showing lower scores than collaborative institutions (MD = -8.33, $p < .001$). In research performance, comparable patterns were noted, with bureaucratic institutions scoring lower than innovative (MD = -2.33, $p < .001$) and collaborative institutions (MD = -11.79, $p < .001$), and innovative institutions generally below collaborative institutions (MD = -9.46, $p < .001$). These comparisons indicate consistent associations between institutional culture and staff performance, with collaborative institutions tending to correspond with higher scores across all three performance domains.

DISCUSSION

This study examined the associations between institutional climate, institutional size, and institutional culture and academic staff performance in teaching, research, and community service in Nigerian universities. The findings indicate that all three organizational factors were significantly associated with staff performance, suggesting that variations in internal university characteristics correspond with differences in how academic duties are executed. Specifically, institutional climate was significantly associated with performance across teaching, research, and community service. Psychological aspects of climate, such as clarity of roles, recognition, and perceived professional support, were more strongly associated with performance than social dimensions, including collegiality and interpersonal cohesion. This suggests that in the Nigerian university setting, professional guidance and clear expectations may be more relevant to staff productivity than social relationships alone. Social connections are important, but they may not sufficiently address challenges related to workload, resource limitations, and administrative demands. These findings are consistent with organizational behavior theory, which proposes that perceptions of the work environment are related to engagement and effort (Eldor & Shoshani, 2017; Hassanein et al., 2025). A previous study also show that supportive climates correspond with higher collaboration, satisfaction, and effort (Amjad & Macleod, 2014). The stronger associations for psychological climate contrast with findings from Monari (2021) in European universities, suggesting that in Nigerian institutions characterized by hierarchical leadership and limited resources, role clarity, recognition, and perceived support are particularly salient. These observations imply that administrators could enhance staff engagement by improving communication, feedback mechanisms, and recognition systems.

Institutional size was significantly associated with academic staff performance across teaching, research, and community service. Larger institutions were associated with broader staffing, more extensive research infrastructure, and greater opportunities for collaboration, which corresponded with higher engagement in academic duties. The association was noted to depend on the alignment of workload, staffing, and resources, indicating that size alone does not uniformly correspond with higher performance. These findings are consistent with organizational theories linking scale with resource availability and professional opportunities (Ajayi et al., 2017; Lepori et al., 2023). Prior research indicates that larger institutions provide more facilities and collaborative networks, supporting productivity (Olufemi & Olayinka, 2017; Owan et al., 2019), while rapid growth without proportional resources can reduce teaching quality and increase administrative burdens (Ruffina et al., 2018). In the Nigerian higher education setting, the positive associations observed suggest that institutions that manage resources and

workload in line with size are more likely to achieve better performance outcomes, emphasizing the importance of strategic planning and resource allocation.

Institutional culture was significantly associated with academic staff performance across teaching, research, and community service. Shared values, professional norms, and institutional traditions were associated with higher engagement, while cultures that were less aligned with professional or collegial expectations corresponded less favorably with performance. Cultures emphasizing professionalism, collegiality, and commitment to institutional objectives were particularly associated with positive outcomes. These observations are consistent with theoretical frameworks that treat culture as a factor associated with motivation, identity, and professional behavior (Adams, 2013; Englund et al., 2018). Previous studies also link collaborative and professional cultures to higher teaching quality, research activity, and community engagement (Yousefi et al., 2020; Zafar, 2025). The findings further indicate that the associations between culture and performance are stronger when cultural norms are reinforced by leadership practices and resource availability, suggesting that institutional practices such as mentoring, recognition, and transparent promotion systems operationalize cultural values effectively (Duan et al., 2018). In Nigerian universities, the results suggest that reinforcing professional norms and institutional expectations may correspond with improved staff engagement across all academic functions.

Several patterns were observed in the findings. Associations between climate and culture and performance were generally stronger than those for institutional size, highlighting the relevance of perceived support, recognition, and professional norms. Psychological aspects of climate were more strongly associated with performance than social dimensions, indicating the importance of clarity, guidance, and recognition in motivating staff. Associations with size appeared contingent on the alignment of staffing, infrastructure, and workload with institutional growth. These associations may operate through mechanisms such as perceived support, access to resources, collaborative opportunities, and reinforcement of professional norms. The Nigerian higher education environment, characterized by hierarchical leadership, high workloads, and limited resources, appears to amplify the relevance of psychological climate and institutional culture in shaping staff engagement and performance.

This study makes a substantive contribution to research on organizational factors in Nigerian higher education. It provides empirical evidence that institutional climate, institutional size, and institutional culture are associated with academic staff performance in teaching, research, and community service. Examination of these factors within a single analytical framework clarifies how perceptual characteristics, such as climate and culture, alongside structural features, such as size, correspond with differences in staff engagement and productivity. Earlier studies in Nigeria and comparable sub-Saharan settings have often examined isolated organizational attributes or restricted performance indicators, particularly research output or teaching quality alone (Chuktu et al., 2023; Owan et al., 2019; Zafar, 2025). This study extends existing work by integrating multiple organizational dimensions and core academic functions.

The findings also indicate that psychological aspects of institutional climate, including role clarity, recognition, and perceived support, have stronger associations with staff performance than social climate elements. In university systems characterized by hierarchical leadership structures, heavy workloads, and constrained resources, formal professional support appears more closely linked to performance than interpersonal collegiality (Eldor & Shoshani, 2017; Monari, 2021). In addition, institutional culture, when reinforced through leadership practices, shared professional norms, and alignment of resources, corresponds with higher engagement across teaching, research, and community service. These findings provide practical direction for university managers and policymakers seeking to improve academic staff performance through organizational reforms.

Nevertheless, several limitations should be considered when interpreting the findings. The study focused exclusively on Nigerian universities, which restricts transferability to other higher education systems with different governance arrangements, funding structures, and socio-cultural conditions. Reliance on self-reported measures may have introduced response bias, including socially desirable reporting or incomplete recall of experiences, despite assurances of anonymity and confidentiality. The cross-sectional design further limits causal interpretation. Although associations were observed between institutional climate, size, culture, and staff performance, temporal ordering cannot be established. It remains uncertain whether changes in organizational conditions would lead to improved performance, or whether higher performing staff influence perceptions of institutional conditions.

Future studies could address these limitations through longitudinal designs that examine changes in organizational characteristics and staff performance over time. Such approaches would provide stronger evidence regarding causal relationships. Mixed methods of research, incorporating interviews or focus group discussions, could clarify processes through which institutional climate, size, and culture relate to teaching, research, and community service. Comparative studies across African or international higher education systems would also determine whether these associations are specific to Nigeria or more widely observable. Experimental or quasi experimental studies, including leadership development, mentoring schemes, or workload reorganization, could assess the effectiveness of specific organizational interventions in improving academic staff engagement and productivity.

CONCLUSION

The broad aim of this study was to examine how institutional climate, institutional size, and institutional culture relate to academic staff performance in Nigerian universities across teaching, research, and community service. The findings indicate that each organizational factor is associated with variations in staff performance within the institutions studied. Institutional climate is related primarily to staff motivation, role clarity, and engagement in academic duties. Institutional size related to workload

distribution, access to facilities, and opportunities for academic collaboration. Institutional culture related to professional norms, commitment to scholarly work, and participation in community service activities.

The practical implications of these findings are framed specifically within the Nigerian university system. First, the results suggest that institutional climate warrants attention as a managerial concern, particularly through ethical leadership practices, clear communication, and inclusive decision making that may support staff morale and productivity. Second, the findings indicate that institutional expansion, where it occurs, requires corresponding investment in staffing and infrastructure if growth is to support teaching and research rather than strain existing resources. Third, the results suggest that institutional culture may influence staff engagement when values are reinforced through mentoring, recognition practices, and transparent promotion procedures that align expectations with incentives.

The study contributes to existing literature by integrating structural factors, such as institutional size, with behavioral factors, such as climate and culture, within a single empirical analysis of Nigerian universities. This combined perspective supports organizational theories that associate working conditions, leadership practices, and resource arrangements with individual motivation and work engagement, while also indicating that the effects of institutional size depend on how growth is managed rather than size alone.

The conclusions and recommendations are limited to the Nigerian higher education setting examined in this study. While similar organizational challenges exist in other higher education systems, the findings do not imply universal applicability. Instead, the study provides evidence relevant to universities operating in resource constrained environments with expanding enrolments and evolving governance structures. In such settings, attention to institutional climate, alignment between growth and resources, and reinforcement of professional culture may support improvements in academic staff performance. Further research across different national and institutional settings is required before broader generalizations can be made.

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AI statement: The authors stated that no generative artificial intelligence (AI) or AI-based tools were used to generate the research data, conduct the analysis, or draw the conclusions reported in this study. AI-based tools were not used to create figures, tables, or original scholarly content. All aspects of the study, including conceptualization, data collection, analysis, interpretation, and manuscript preparation, were carried out by the authors, who take full responsibility for the integrity and originality of the work.

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