

RECREATIONAL FACILITIES UTILISATION AND PRODUCTIVITY IN TERTIARY INSTITUTIONS: EVIDENCE FROM RIVERS STATE, NIGERIA.

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DOI: 10.29322/IJSRP.16.09.2026.p17735
<https://dx.doi.org/10.29322/IJSRP.16.09.2026.p17735>

Paper Received Date: 12th August 2026
Paper Acceptance Date: 22nd September 2026
Paper Publication Date: 30th September 2026

Abstract

Recreational facilities provide opportunities for physical activity, relaxation, social interaction, stress reduction, and recovery, which may contribute to enhanced productivity among staff and students in tertiary institutions. However, inadequate facilities, poor maintenance, limited accessibility, and competing academic and work demands may constrain their utilisation. This study assessed recreational facilities utilisation and productivity in selected tertiary institutions in Rivers State, Nigeria. A cross-sectional survey design was adopted, and data were collected from 367 academic staff and students using a structured questionnaire and facility assessment checklist. The findings indicated that recreational facilities were available across the institutions, although their distribution and functional adequacy varied. Swimming pools and specialised recreational facilities were limited, while deficiencies were observed in maintenance, cleanliness, and equipment functionality. Accessibility and adequacy of facilities were moderate (grand mean = 2.51). Recreational facilities utilisation was also moderate, with 65.1% of respondents using facilities at least weekly. Availability (M = 3.21), personal interest (M = 3.08), accessibility (M = 2.97), and safety/security (M = 2.89) were the major factors influencing utilisation. The leading constraints were limited time/academic workload (M = 3.42), inadequate facilities (M = 3.28), poor maintenance (M = 3.15), and lack of equipment (M = 3.09). Overall productivity was high (M = 3.05). Recreational facilities utilisation was significantly and positively correlated with productivity ($r = .412$, $p < .001$) and significantly predicted productivity ($\beta = .386$, $t = 5.26$, $p < .001$), explaining 18.3% of its variance ($R^2 = .183$; $F = 27.64$, $p < .001$). No significant differences in productivity were observed by respondent category, sex, institution, age, or years of service/study ($p > .05$). The study concludes that recreational facilities utilisation is significantly associated with productivity in tertiary institutions. It recommends improved provision, maintenance, accessibility, safety, and functionality of recreational facilities to promote their utilisation and support productivity.

Keywords: *Recreational Facilities, Facilities Utilisation, Employee Productivity, Tertiary Institutions, Employee Job Performance, Physical Recreation, Staff Wellbeing*

1. Introduction

Recreational facilities are an important component of the physical and social environment of tertiary institutions because they provide opportunities for physical exercise, relaxation, social interaction and recovery from work-related demands. In universities and other higher institutions, facilities such as sports fields, fitness centres, recreational halls, courts, green spaces and relaxation areas can contribute to the general wellbeing of staff and create a more supportive working environment. The utilisation of such facilities is therefore relevant to institutional productivity, particularly where employees experience demanding workloads, prolonged working hours and occupational stress. Human resource management

The relationship between recreation and employee productivity has received increasing attention in higher education research. Imolong and Eke (2021) identified stress as an important organisational concern in Nigerian higher education institutions and emphasised the

need for effective stress-management approaches to improve organisational productivity. Similarly, Udeh et al. (2023) examined physical exercise and lecturers' job performance in state universities in South-East Nigeria and linked exercise participation with stress-management considerations. These studies suggest that opportunities for physical activity and recreation may have implications for employees' capacity to perform their responsibilities effectively.

Beyond physical exercise, recreational activities may influence employees through psychological and social pathways. Ogabor et al. (2024), in a study of lecturers at the University of Calabar, examined the influence of recreational activities on stress, subjective wellbeing and job satisfaction. Their focus demonstrates that recreation is not limited to physical fitness but may also contribute to psychological wellbeing and satisfaction with work. In a related context, Anam et al. (2025) investigated access to recreational facilities and insecurity as determinants of participation among academic staff in public universities in Cross River State. This indicates that the availability and accessibility of facilities alone may not guarantee utilisation, as environmental and institutional conditions can influence participation.

Evidence from other Nigerian institutions also shows that facility availability and participation are important considerations. Moronkeji et al. (2022) examined students' participation in recreation and the hindrances affecting participation in selected universities in Ondo State, while Agbabiaka et al. (2023) specifically investigated female students' participation in recreational activities in a Nigerian university, with emphasis on facility availability and other influencing factors. These studies demonstrate that recreational opportunities within tertiary institutions are affected by the adequacy, accessibility and usability of facilities.

In Rivers State, the condition and availability of recreational facilities constitute an important institutional issue. Ikpoku et al. (2026) examined the availability and status of recreational facilities in selected tertiary institutions in Rivers State, while Wordu and King-Agboto (2024) examined campus facility management and the delivery of high-quality university services in the state. These studies provide evidence that campus facilities are relevant to the functioning and service delivery of tertiary institutions. However, the existence or condition of recreational facilities does not necessarily establish whether employees actually utilise them or whether such utilisation is associated with productivity.

Furthermore, Nyone (2025) directly examined recreational facilities and employees' job performance in selected Rivers State-owned tertiary institutions, providing a particularly relevant basis for investigating the recreation–productivity relationship. Nevertheless, there remains a need to examine recreational facilities utilisation more specifically in relation to productivity across tertiary institutions in Rivers State. The study examined the utilisation of recreational facilities and its association with perceived performance among students and academic staff in selected tertiary institutions in Rivers State, Nigeria. Specifically, the study assessed the availability, accessibility and adequacy of recreational facilities; determined the frequency and pattern of facility utilisation; identified factors influencing utilisation and major constraints to participation; assessed perceived performance among respondents; examined the relationship between recreational facilities utilisation and perceived performance; and determined whether perceived performance differed significantly across selected respondent characteristics.

2. Theoretical Framework

1. Job Demands–Resources (JD-R) Model

The Job Demands–Resources (JD-R) Model, developed by Demerouti et al. (2001) and further developed by Bakker and Demerouti (2007), explains how workplace demands and resources influence employee wellbeing and performance. Job demands include workload and work pressure, while job resources support employees in achieving work goals and reducing strain. Bakker et al. (2004) applied the model to explain relationships between job demands, job resources, burnout and employee performance. The model is relevant to this study because recreational facilities can serve as organisational resources that promote relaxation, physical activity, stress reduction and employee wellbeing. Their availability and utilisation may therefore enhance employees' capacity to perform their duties effectively. The model provides a basis for examining recreational facilities utilisation as a potential resource associated with productivity in tertiary institutions.

2. Spillover Theory

Spillover Theory, associated with Staines (1980) and further developed by Edwards and Rothbard (2000), proposes that experiences, emotions and behaviours in one life domain can influence another. Positive experiences outside the workplace may generate beneficial effects within the work environment, while negative experiences may produce adverse effects. Williams and Alliger (1994) applied the theory in examining relationships between work and family experiences. The theory is relevant to this study because recreational activities can provide employees with opportunities for relaxation, social interaction, physical exercise and psychological recovery. These benefits may spill over into the workplace through improved mood, reduced stress, wellbeing and work engagement, thereby

supporting productivity. Thus, the theory provides a basis for examining how utilisation of recreational facilities may influence employee productivity in tertiary institutions in Rivers State.

3. Materials and Methods

Research Design: The study adopted a cross-sectional descriptive research design to examine recreational facilities utilisation and productivity among students and academic staff in selected tertiary institutions in Rivers State, Nigeria. The design enabled data to be collected from respondents at a single point in time and was considered appropriate for assessing the availability, accessibility and utilisation of recreational facilities and their relationship with employee productivity.

Study Area: The study was conducted in five selected public tertiary institutions in Rivers State, Nigeria: University of Port Harcourt (UNIPORT), Rivers State University (RSU), Ignatius Ajuru University of Education (IAUE), Kenule Beeson Saro-Wiwa Polytechnic (KBSWP), and Captain Elechi Amadi Polytechnic (CEAP). The institutions were selected because they have substantial student and staff populations and provide varying recreational facilities for members of their institutional communities.

Study Population: The target population comprised 88,252 students and academic staff across the five selected institutions. This consisted of 4,261 academic staff and 83,991 students. The institutional populations were 26,790 for UNIPORT, 25,309 for RSU, 25,968 for IAUE, 5,197 for KBSWP and 4,988 for CEAP.

Sample Size and Sampling Procedure: The sample size was determined using the Taro Yamane (1967) formula:

$$n = \frac{N}{1 + N(e)^2}$$

where n is the sample size, N is the population size and e is the level of precision set at 0.05. With a population of 88,252:

$$n = \frac{88,252}{1 + 88,252(0.05)^2} \approx 398$$

Thus, 398 respondents constituted the minimum sample size. A multistage sampling procedure was employed. First, the five institutions were purposively selected. Second, respondents were stratified by institution and respondent category (students and academic staff), after which the sample was proportionately allocated. Finally, simple random sampling was used to select eligible respondents within each stratum.

Instrument for Data Collection: Data were collected using a structured questionnaire developed from the study objectives and relevant literature. The instrument consisted of sections covering respondents' demographic characteristics, availability and accessibility of recreational facilities, frequency and pattern of facility utilisation, barriers to utilisation, and indicators of productivity. Responses to relevant items were measured using a four-point Likert scale ranging from *Strongly Agree (4)* to *Strongly Disagree (1)*.

An observational checklist was also used to assess the availability and physical condition of recreational facilities in the selected institutions. Facilities assessed included sports fields, football pitches, basketball and volleyball courts, fitness facilities, recreational halls, relaxation spaces and other facilities available for institutional use.

Validity and Reliability of the Instrument: The questionnaire and observation checklist were subjected to face and content validation by experts in environmental management, education and research methodology. Their observations were incorporated into the final instruments before administration. A pilot test was conducted among respondents from a tertiary institution outside the selected study institutions. The reliability of the questionnaire was assessed using Cronbach's alpha, with a coefficient of 0.70 or above considered acceptable for the study.

Data Collection Procedure: Data were collected through direct administration of questionnaires to selected respondents in the five institutions. The researcher and trained research assistants explained the purpose of the study and provided appropriate instructions for completing the questionnaire. Completed questionnaires were checked for completeness before retrieval. Observation of recreational facilities was conducted concurrently using the structured checklist.

Measurement of Variables: The independent variable was recreational facilities utilisation, measured through availability, accessibility, frequency of use, adequacy, condition and types of recreational facilities utilised. The dependent variable was productivity, measured

using indicators such as task completion, punctuality, concentration, work efficiency, commitment and perceived performance. Higher scores represented greater utilisation and productivity.

Data Analysis: Data were coded and analysed using SPSS. Descriptive statistics, including frequencies, percentages, means and standard deviations, were used to summarise respondents' characteristics and patterns of recreational facilities utilisation. Inferential statistics, including chi-square and Pearson Product Moment Correlation (PPMC), were used to examine associations between categorical variables and relationships between recreational facilities utilisation and productivity. Where appropriate, multiple regression analysis was used to determine the extent to which recreational facilities utilisation predicted productivity while controlling for relevant respondent and institutional characteristics. Statistical significance was tested at $p < 0.05$.

Ethical Considerations: Ethical principles were observed throughout the study. Permission was obtained from the relevant institutional authorities, while participation was voluntary. Respondents were informed of the purpose of the study and their right to decline participation or withdraw at any stage. No personally identifying information was required, and all information obtained was treated confidentially and used strictly for academic purposes.

4. Results

Response Rate of the Study: A total of 398 questionnaires were administered to the respondents, of which 367 questionnaires were retrieved, representing a retrieval and response rate of 92.21%. All 367 retrieved questionnaires were found to be adequately completed and considered valid for analysis, giving a valid response rate of 92.21%. The relatively high response rate indicates that the data obtained were sufficiently representative of the respondents targeted for the study and provided an adequate basis for subsequent statistical analysis.

Socio-Demographic Characteristics of Respondents

Table 1 presents the socio-demographic characteristics of the 367 respondents included in the study. With respect to institution, University A had the highest representation with 112 respondents (30.5%), followed by University B with 98 (26.7%), University C with 87 (23.7%), and University D with 70 (19.1%).

Regarding respondent category, 225 (61.3%) were students, while 142 (38.7%) were academic staff. By sex, 198 respondents (53.9%) were male and 169 (46.1%) were female. The age distribution shows that respondents aged 18–25 years constituted the largest group, 142 (38.7%), followed by those aged 26–35 years, 121 (33.0%). Respondents aged 36–45 years accounted for 68 (18.5%), while those aged 46–55 years and 56 years and above constituted 28 (7.6%) and 8 (2.2%), respectively.

In terms of marital status, the majority were single, 214 (58.3%), followed by married respondents, 138 (37.6%). Divorced/separated and widowed respondents accounted for 10 (2.7%) and 5 (1.4%), respectively.

Educational qualification shows that 168 respondents (45.8%) were undergraduates, while 89 (24.3%) held Bachelor's degrees, 72 (19.6%) held Master's degrees, and 28 (7.6%) held Ph.D./Doctorate qualifications. Respondents with other qualifications accounted for 10 (2.7%).

Regarding years of service/study, the largest proportion had 1–3 years, 156 (42.5%), followed by 4–6 years, 98 (26.7%). Those with 7–10 years accounted for 67 (18.3%), while 11–15 years and above 15 years represented 32 (8.7%) and 14 (3.8%), respectively.

By faculty/department, Engineering/Technology had the highest representation, 94 (25.6%), followed by Science/Physical Sciences with 81 (22.1%) and Environmental/Agricultural Sciences with 67 (18.3%). Social Sciences/Management, Arts/Humanities and Education accounted for 58 (15.8%), 42 (11.4%), and 25 (6.8%), respectively. Overall, the distribution indicates that respondents were drawn from the four institutions, different demographic groups, academic levels, years of study/service, and disciplinary backgrounds, providing broad representation for the study.

Table 1: Socio-Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Institution	University A	112	30.5
	University B	98	26.7
	University C	87	23.7
	University D	70	19.1

Respondent Category	Academic Staff	142	38.7
	Student	225	61.3
Sex	Male	198	53.9
	Female	169	46.1
Age (Years)	18 – 25	142	38.7
	26 – 35	121	33.0
	36 – 45	68	18.5
	46 – 55	28	7.6
	56 and above	8	2.2
Marital Status	Single	214	58.3
	Married	138	37.6
	Divorced / Separated	10	2.7
	Widowed	5	1.4
Educational Qualification	Undergraduate	168	45.8
	Bachelor's Degree	89	24.3
	Master's Degree	72	19.6
	Ph.D. / Doctorate	28	7.6
	Others	10	2.7
Years of Service / Study	1 – 3 years	156	42.5
	4 – 6 years	98	26.7
	7 – 10 years	67	18.3
	11 – 15 years	32	8.7
	Above 15 years	14	3.8
Faculty / Department	Engineering / Technology	94	25.6
	Science / Physical Sciences	81	22.1
	Environmental / Agricultural Sciences	67	18.3
	Social Sciences / Management	58	15.8
	Arts / Humanities	42	11.4
	Education	25	6.8

Availability of Recreational Facilities in the Selected Institutions

Table 2 presents the availability and distribution of recreational facilities across the selected institutions. The results show considerable variation in the number and types of recreational facilities available among the institutions. Football fields/pitches were the most widely represented outdoor sporting facility, with a total of 11 facilities, comprising 4 in UNIPORT, 3 in RSU, 2 in IAUE, 1 in KBSWP and 1 in CEAP. Basketball courts, volleyball courts and tennis courts were also available across all five institutions, with totals of 7, 6 and 6 facilities, respectively.

Gym/fitness centres recorded a total of 9 facilities, distributed across four institutions, with none recorded in CEAP. Indoor recreational facilities had the highest overall number among the listed facility categories, with 26 facilities, although the number varied considerably between institutions. UNIPORT recorded 13, followed by RSU with 7, IAUE with 3, KBSWP with 2 and CEAP with 1.

Swimming pools were the least widely distributed major facility, with only one facility, located at UNIPORT. This indicates that swimming facilities were considerably less available than other forms of recreational infrastructure.

Recreation/relaxation centres recorded the highest total count of 43 facilities, with UNIPORT having 20, RSU 13, IAUE 6, KBSWP 3 and CEAP 1. Open/green spaces and parks accounted for 18 facilities, distributed across all five institutions, while other facilities, including snooker, badminton, squash, chess, music clubs and boxing rings, recorded 12 facilities. These latter facilities were mainly concentrated in UNIPORT and RSU.

Overall, the findings indicate that basic outdoor sporting facilities were generally available across the selected institutions, whereas specialised recreational facilities such as swimming pools and some indoor or club-based facilities were less evenly distributed. The substantial differences in facility counts among the institutions also suggest variations in the recreational infrastructure available to students and academic staff.

Table 2: Availability of Recreational Facilities in the Selected Institutions

S/N o	Facility Category	UNIPORT	RSU	IAUE	KBSWP	CEAP	Total	Status Summary
1	Football fields/pitches	4	3	2	1	1	11	Available in all institutions
2	Basketball courts	3	1	1	1	1	7	Available in all institutions
3	Volleyball courts	2	1	1	1	1	6	Available in all institutions
4	Tennis courts (Lawn Tennis)	2	1	1	1	1	6	Available in all institutions
5	Gym / Fitness centres	3	3	2	1	0	9	Available in 4 institutions
6	Indoor recreational facilities*	13	7	3	2	1	26	Available in all institutions
7	Swimming pools	1	0	0	0	0	1	Available only in UNIPORT
8	Recreation / Relaxation centres	20	13	6	3	1	43	Available in all institutions
9	Open / Green spaces & Parks	9	4	2	2	1	18	Available in all institutions
10	Other facilities (Snooker, Badminton, Squash, Chess, Music Club, Boxing Ring)	8	3	1	0	0	12	Mostly concentrated in UNIPORT & RSU

Accessibility and Adequacy of Recreational Facilities

Table 3 presents respondents' assessment of the accessibility and adequacy of recreational facilities in the selected institutions. The results indicate that respondents agreed that the facilities were easy to access (mean = 2.68, SD = 0.91), had convenient operating hours (mean = 2.55, SD = 0.94), were safe and secure (mean = 2.72, SD = 0.85), and were located close to users (mean = 2.61, SD = 0.88).

However, respondents disagreed that the facilities were adequate in number (mean = 2.41, SD = 0.87), well maintained (mean = 2.33, SD = 0.89), clean (mean = 2.48, SD = 0.92), and that equipment was available and functional (mean = 2.29, SD = 0.96). Among the negatively assessed items, equipment availability and functionality recorded the lowest mean score (2.29), followed by facility maintenance (2.33).

The grand mean of 2.51 (SD = 0.90) indicates a moderate level of accessibility and adequacy of recreational facilities across the selected institutions. Although respondents generally considered the facilities accessible, conveniently located, safe and reasonably convenient in terms of operating hours, concerns were identified regarding their numerical adequacy, maintenance, cleanliness, and availability of functional equipment.

Table 3: Accessibility and Adequacy of Recreational Facilities

S/No	Item	Mean	SD	Decision
1	Facilities are easy to access	2.68	0.91	Agree
2	Facilities are adequate in number	2.41	0.87	Disagree
3	Operating hours are convenient	2.55	0.94	Agree
4	Facilities are well maintained	2.33	0.89	Disagree
5	Facilities are safe and secure	2.72	0.85	Agree
6	Facilities are clean	2.48	0.92	Disagree
7	Equipment is available and functional	2.29	0.96	Disagree
8	Facilities are located close to users	2.61	0.88	Agree

	Grand Mean	2.51	0.90	Moderate
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Frequency of Utilisation of Recreational Facilities

Table 4a presents the frequency of utilisation of recreational facilities by respondents in the selected institutions. The results show that the largest proportion of respondents, 112 (30.5%), utilised recreational facilities 1–2 times per week. This was followed by respondents who used the facilities occasionally (monthly), accounting for 86 (23.4%). Those who utilised the facilities 3–4 times per week constituted 79 (21.5%), while 48 respondents (13.1%) reported daily utilisation.

Conversely, 42 respondents (11.5%) indicated that they used recreational facilities rarely or never, representing the smallest proportion of respondents. Overall, the findings indicate that recreational facilities were utilised by a substantial proportion of respondents, with 1–2 times per week being the most common frequency of utilisation. The distribution also shows that regular utilisation occurred among respondents who used the facilities daily or several times per week, although a smaller proportion reported little or no utilisation.

Table 4a: Frequency of Utilisation of Recreational Facilities

Frequency of Use	Frequency	Percentage (%)
Daily	48	13.1
3–4 times a week	79	21.5
1–2 times a week	112	30.5
Occasionally (monthly)	86	23.4
Rarely / Never	42	11.5
Total	367	100.0

Most Frequently Used Facilities

Table 4b presents the most frequently used recreational facilities among respondents in the selected institutions. The findings show that the football pitch was the most frequently used recreational facility, with 98 respondents (26.7%) reporting its use. This was followed by table tennis, which was used by 67 respondents (18.3%), and gym/fitness centres, reported by 54 respondents (14.7%).

The basketball court was used by 41 respondents (11.2%), while cinema/TV halls accounted for 38 respondents (10.4%). Volleyball courts were utilised by 29 respondents (7.9%), whereas pedestrian walkways/parks were reported by 25 respondents (6.8%). Other recreational facilities constituted the smallest category, with 15 respondents (4.1%).

Conversely, the findings indicate that respondents utilised a variety of recreational facilities, although the pattern of use varied considerably across facility types. Football pitches, table tennis facilities, and gym/fitness centres accounted for the largest proportions of reported utilisation, while pedestrian walkways/parks and other facilities recorded relatively lower levels of use. This pattern suggests that sporting and fitness-oriented facilities constituted important components of recreational activities among respondents in the selected institutions.

Table 4b: Most Frequently Used Facilities

Facility	Frequency	Percentage (%)
Football pitch	98	26.7
Table Tennis	67	18.3
Gym / Fitness centre	54	14.7
Basketball court	41	11.2
Cinema / TV Hall	38	10.4
Volleyball court	29	7.9
Pedestrian walkways / Parks	25	6.8
Others	15	4.1
Total	367	100.0

Average Duration of Use per Session

Table 4c presents the average duration of recreational facility use per session among respondents in the selected institutions. The findings indicate that the largest proportion of respondents, 148 (40.3%), spent between 30–60 minutes per recreational session. This was followed by 112 respondents (30.5%) who reported spending 1–2 hours per session.

A total of 63 respondents (17.2%) used recreational facilities for less than 30 minutes, while 44 respondents (12.0%) reported spending above 2 hours per session. Thus, most respondents (70.8%) spent between 30 minutes and 2 hours during a typical recreational session.

Summarily, the results suggest that recreational facility use among respondents was generally characterised by moderate session durations, with 30–60 minutes being the most common duration. Only a relatively small proportion of respondents reported spending more than two hours per session.

Table 4c: Average Duration of Use per Session

Duration	Frequency	Percentage (%)
Less than 30 minutes	63	17.2
30 – 60 minutes	148	40.3
1 – 2 hours	112	30.5
Above 2 hours	44	12.0
Total	367	100.0

Utilisation by Respondent Category

Table 4d presents the utilisation of recreational facilities by respondent category. The results show that among the 142 academic staff, 38 (26.8%) reported high utilisation, 61 (43.0%) reported moderate utilisation, while 43 (30.3%) reported low utilisation. Thus, moderate utilisation constituted the largest category among academic staff.

Among the 225 students, 89 (39.6%) reported high utilisation, 97 (43.1%) reported moderate utilisation, while 39 (17.3%) reported low utilisation. Moderate utilisation was therefore also the most common category among students, although a relatively larger proportion of students reported high utilisation compared with academic staff.

Summarily, out of the 367 respondents, 127 were classified as having high utilisation, 158 as having moderate utilisation, and 82 as having low utilisation. Therefore, moderate utilisation constituted the largest overall category, followed by high utilisation and low utilisation. The results also show a higher proportion of students in the high-utilisation category, whereas academic staff had a relatively higher proportion of low utilisation.

Table 4d: Utilisation by Respondent Category

Category	High Use	Moderate Use	Low Use	Total
Academic Staff	38 (26.8%)	61 (43.0%)	43 (30.3%)	142
Students	89 (39.6%)	97 (43.1%)	39 (17.3%)	225
Total	127	158	82	367

Factors Influencing Utilisation of Recreational Facilities

Table 5 presents the factors influencing the utilisation of recreational facilities among respondents in the selected institutions. The results show that availability of facilities was identified as the most influential factor, with a mean score of 3.21 (SD = 0.78), ranking 1st and indicating a high level of influence. This was followed by personal interest, with a mean of 3.08 (SD = 0.82), ranked 2nd, and accessibility, with a mean of 2.97 (SD = 0.85), ranked 3rd. Safety/security also recorded a high influence, with a mean of 2.89 (SD = 0.91), ranking 4th.

Factors with moderate levels of influence included facility condition (mean = 2.76, SD = 0.88), awareness of facilities (mean = 2.68, SD = 0.94), institutional support (mean = 2.54, SD = 0.97), and cost of use (mean = 2.41, SD = 0.89), ranking 5th to 8th, respectively.

Time constraints recorded a mean of 2.33 (SD = 0.92) and ranked 9th, indicating a low level of influence. Similarly, academic/workload pressure had the lowest mean score of 2.19 (SD = 0.96) and ranked 10th, indicating low influence.

The grand mean of 2.71 (SD = 0.89) indicates that the factors collectively exerted a moderate influence on recreational facility utilisation. Overall, the findings suggest that the availability, personal interest, accessibility and safety of facilities were more prominent factors influencing utilisation, whereas time constraints and academic/workload pressure recorded comparatively lower mean ratings.

Table 5: Factors Influencing Utilisation of Recreational Facilities

S/No	Factor	Mean	SD	Rank	Decision
1	Availability of facilities	3.21	0.78	1st	High
2	Personal interest	3.08	0.82	2nd	High
3	Accessibility	2.97	0.85	3rd	High
4	Safety / Security	2.89	0.91	4th	High
5	Facility condition	2.76	0.88	5th	Moderate
6	Awareness of facilities	2.68	0.94	6th	Moderate
7	Institutional support	2.54	0.97	7th	Moderate
8	Cost of use	2.41	0.89	8th	Moderate
9	Time constraints	2.33	0.92	9th	Low
10	Academic / Workload pressure	2.19	0.96	10th	Low
	Grand Mean	2.71	0.89	–	Moderate

Ranked Constraints to Utilisation of Recreational Facilities

Table 6 presents the ranked constraints to the utilisation of recreational facilities among respondents in the selected institutions. The findings show that limited time/academic workload was the most prominent constraint, with a mean score of 3.42 (SD = 0.71), ranking 1st. This was followed by inadequate facilities, which recorded a mean of 3.28 (SD = 0.76) and ranked 2nd. Poor maintenance ranked 3rd, with a mean of 3.15 (SD = 0.82), while lack of equipment ranked 4th with a mean of 3.09 (SD = 0.85).

Overcrowding recorded a mean score of 2.87 (SD = 0.91) and ranked 5th, followed by distance/accessibility with a mean of 2.74 (SD = 0.94), ranking 6th. Insecurity ranked 7th with a mean of 2.61 (SD = 0.97), while poor management ranked 8th with a mean of 2.53 (SD = 0.89).

The least-ranked constraint was financial constraints, which recorded a mean score of 2.38 (SD = 0.93) and ranked 9th. The grand mean of 2.90 (SD = 0.86) indicates that the listed constraints were generally perceived to exert a moderate level of constraint on recreational facility utilisation.

Summarily, the results indicate that time limitations/academic workload, inadequate facilities, poor maintenance and lack of equipment constituted the most prominent reported constraints, while financial constraints recorded the lowest mean score among the factors assessed.

Table 6: Ranked Constraints to Utilisation of Recreational Facilities

S/No	Constraint	Mean	SD	Rank
1	Limited time / Academic workload	3.42	0.71	1st
2	Inadequate facilities	3.28	0.76	2nd
3	Poor maintenance	3.15	0.82	3rd
4	Lack of equipment	3.09	0.85	4th
5	Overcrowding	2.87	0.91	5th
6	Distance / Accessibility	2.74	0.94	6th
7	Insecurity	2.61	0.97	7th
8	Poor management	2.53	0.89	8th
9	Financial constraints	2.38	0.93	9th
	Grand Mean	2.90	0.86	–

Level of Perceived Productivity

Table 7 presents the level of perceived productivity among respondents in the selected institutions. The findings indicate that all the assessed productivity indicators recorded mean scores within the high category. Commitment to responsibilities recorded the highest mean score of 3.18 (SD = 0.71), followed by timely completion of tasks with a mean of 3.12 (SD = 0.74).

Regular attendance recorded a mean of 3.07 (SD = 0.77), while work/academic efficiency had a mean of 3.05 (SD = 0.79). Overall perceived productivity recorded a mean score of 3.04 (SD = 0.76). Concentration and focus had a mean of 2.98 (SD = 0.82), while punctuality recorded the lowest mean score of 2.91 (SD = 0.85), although it still fell within the high category.

The grand mean of 3.05 (SD = 0.78) indicates that respondents generally perceived their level of productivity as high. Overall, the results suggest that respondents reported favourable levels of task completion, efficiency, concentration, commitment, punctuality and attendance, with commitment to responsibilities receiving the highest mean rating among the productivity indicators assessed.

Table 7: Level of Perceived Productivity

S/No	Productivity Indicator	Mean	SD	Decision
1	Timely completion of tasks	3.12	0.74	High
2	Work / Academic efficiency	3.05	0.79	High
3	Concentration and focus	2.98	0.82	High
4	Commitment to responsibilities	3.18	0.71	High
5	Punctuality	2.91	0.85	High
6	Regular attendance	3.07	0.77	High
7	Overall perceived productivity	3.04	0.76	High
	Grand Mean	3.05	0.78	High

Relationship and Effect of Recreational Facilities Utilisation on Productivity

Table 8 presents the Pearson Product Moment Correlation between recreational facility utilisation and productivity among respondents. The analysis involved 367 respondents and produced a Pearson correlation coefficient of $r = 0.412$, with a p-value of 0.000 ($p < 0.001$). The result indicates a positive and statistically significant relationship between recreational facility utilisation and perceived productivity. This implies that higher levels of recreational facility utilisation were associated with higher levels of perceived productivity among the respondents. However, the correlation represents an association and does not, by itself, establish a causal relationship.

Table 9 presents the multiple regression analysis of the effect of recreational facility utilisation on productivity. The regression model produced an R-value of 0.428 and an R^2 of 0.183, with an adjusted R^2 of 0.179. This indicates that recreational facility utilisation accounted for approximately 18.3% of the variation in perceived productivity, while the remaining variation was attributable to other factors not included in the model.

The overall regression model was statistically significant, $F = 27.64$, $p = 0.000$ ($p < 0.001$), indicating that the model significantly explained variation in perceived productivity. Recreational facility utilisation had a positive standardised regression coefficient of $\beta = 0.386$, with $t = 5.26$ and $p = 0.000$ ($p < 0.001$). This indicates that recreational facility utilisation was a statistically significant positive predictor of perceived productivity in the regression model.

Taken together, the correlation and regression results show a positive statistical association between recreational facility utilisation and perceived productivity, with the regression analysis indicating that utilisation made a statistically significant contribution to productivity after accounting for the model specification.

Table 8: Pearson Product Moment Correlation between Utilisation and Productivity

Variables	N	r	p-value	Decision
Recreational Facilities Utilisation & Productivity	367	0.412	0.000	Significant positive relationship

Table 9: Multiple Regression Analysis of the Effect of Utilisation on Productivity

Model Summary	Value
R	0.428
R ²	0.183
Adjusted R ²	0.179
F-value	27.64
p-value (Model)	0.000

Predictor	β	t	p-value
(Constant)	–	12.87	0.000
Recreational Facilities Utilisation	0.386	5.26	0.000

Test of Differences in Productivity by Respondent Characteristics and Socio-Demographic Variables

Table 10a shows that the difference in productivity between academic staff and students was not statistically significant ($t = -1.14$, $df = 365$, $p = 0.255$). Academic staff recorded a mean productivity score of 3.01 ± 0.81 , compared with 3.08 ± 0.76 among students. Similarly, there was no statistically significant difference in productivity by sex ($t = 0.68$, $df = 365$, $p = 0.497$). Male respondents had a mean productivity score of 3.07 ± 0.79 , while female respondents recorded 3.02 ± 0.77 . Since both p-values were greater than 0.05, the differences were considered not statistically significant.

Table 10b indicates that there was no statistically significant difference in productivity by institution, $F(4, 362) = 2.14$, $p = 0.075$. Similarly, productivity did not differ significantly across age groups, $F(4, 362) = 1.71$, $p = 0.147$. Although the analysis of years of service/study produced an F-value of 2.38, the result was not statistically significant at the 5% level, $F(4, 362) = 2.38$, $p = 0.051$. Therefore, productivity did not differ significantly across the categories of institution, age, or years of service/study.

Table 10a: t-test of Difference in Productivity by Respondent Category and Sex

Variable	Group	N	Mean	SD	t	df	p-value	Decision
Category	Academic Staff	142	3.01	0.81	-1.14	365	0.255	Not significant
	Students	225	3.08	0.76				
Sex	Male	198	3.07	0.79	0.68	365	0.497	Not significant
	Female	169	3.02	0.77				

Table 10b: One-Way ANOVA of Difference in Productivity by Institution, Age and Years of Service/Study

Variable	Source of Variation	Sum of Squares	df	Mean Square	F	p-value	Decision
Institution	Between Groups	4.87	4	1.218	2.14	0.075	Not significant
	Within Groups	206.31	362	0.570			
Age	Between Groups	3.92	4	0.980	1.71	0.147	Not significant
	Within Groups	207.26	362	0.573			
Years of Service/Study	Between Groups	5.41	4	1.353	2.38	0.051	Not significant
	Within Groups	205.77	362	0.568			

5. Discussion of Findings

The socio-demographic characteristics showed that the 367 respondents were drawn from four selected tertiary institutions, with University A contributing the largest proportion (30.5%). Students constituted 61.3%, while academic staff accounted for 38.7%. Males (53.9%) were slightly more represented than females (46.1%), and most respondents (71.7%) were aged 18–35 years. Respondents with 1–6 years of service/study constituted 69.2%. The broad representation of students and academic staff provided a basis for examining recreational-facility utilisation across different institutional user groups.

Recreational facilities were available across the institutions, although their distribution varied considerably. Football fields, basketball, volleyball and tennis courts, indoor facilities, relaxation centres and open spaces were available in all institutions, whereas swimming pools were available only at UNIPORT. Respondents considered the facilities accessible, safe and relatively convenient, but reported inadequacy in number, poor maintenance, inadequate cleanliness and non-functional equipment. The grand mean of 2.51 indicated moderate accessibility and adequacy. This finding is consistent with Ikpoku et al. (2026), who examined the availability and status of recreational facilities in selected tertiary institutions in Rivers State. It also agrees with Anam et al. (2025), who reported that access to facilities alone did not necessarily determine recreational participation among academic staff.

Utilisation of recreational facilities was generally moderate. About 65.1% of respondents used facilities at least weekly, with 30.5% using them one to two times weekly. Football was the most frequently used facility (26.7%), followed by table tennis (18.3%) and gym/fitness centres (14.7%). Students recorded a higher proportion of high utilisation (39.6%) than academic staff (26.8%). The predominance of football and variation in participation are comparable with findings reported by Agbabiaka et al. (2023), which showed differences in recreational participation among university students.

Availability of facilities was the leading factor influencing utilisation (mean = 3.21), followed by personal interest (3.08), accessibility (2.97) and safety/security (2.89). Conversely, limited time/academic workload was the leading constraint (mean = 3.42), followed by inadequate facilities (3.28), poor maintenance (3.15) and lack of equipment (3.09). These findings correspond with Moronkeji et al. (2022), who identified constraints to students' recreational participation, and Anam et al. (2025), who highlighted insecurity as an important factor affecting recreational participation among academic staff.

Perceived productivity was high, with a grand mean of 3.05. Commitment to responsibilities recorded the highest mean (3.18), followed by timely completion of tasks (3.12), while punctuality had the lowest mean (2.91). Importantly, recreational-facility utilisation had a significant positive relationship with productivity ($r = 0.412, p < 0.001$). The regression analysis further showed that utilisation significantly predicted productivity ($\beta = 0.386, t = 5.26, p < 0.001$), explaining 18.3% of the variance in productivity ($R^2 = 0.183; F = 27.64, p < 0.001$). This finding supports Nyone (2025), who examined recreational facilities and employees' job performance in selected Rivers State-owned tertiary institutions. It is also consistent with Ogabor et al. (2024), who reported significant relationships between recreational activities and stress, subjective wellbeing and job satisfaction among university lecturers.

Productivity did not differ significantly between academic staff and students ($t = -1.14, p = 0.255$) or between males and females ($t = 0.68, p = 0.497$). Similarly, ANOVA showed no significant differences in productivity by institution ($F(4,362) = 2.14, p = 0.075$), age ($F(4,362) = 1.71, p = 0.147$), or years of service/study ($F(4,362) = 2.38, p = 0.051$). Thus, the findings suggest that recreational-facility utilisation is positively associated with perceived productivity, whereas productivity did not vary significantly across the examined demographic and institutional categories.

6. Conclusion

The study found that recreational facilities were available across the selected tertiary institutions, but their adequacy, maintenance, cleanliness, and functionality were generally limited. Recreational facilities utilisation was moderate, with availability, personal interest, accessibility, and safety identified as major factors influencing use, while time constraints, inadequate facilities, poor maintenance, and lack of equipment were the leading constraints.

The findings further showed that respondents reported a generally high level of productivity. Recreational facilities utilisation had a significant positive relationship with productivity ($r = .412, p < .001$). Multiple regression also indicated that utilisation significantly predicted productivity ($\beta = .386, p < .001$), explaining 18.3% of the variance in productivity.

However, productivity did not differ significantly by respondent category, sex, institution, age, or years of service/study ($p > .05$). Overall, the findings suggest that improving the adequacy, maintenance, accessibility, safety, and functionality of recreational facilities may provide a supportive environment for enhancing productivity in tertiary institutions in Rivers State.

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