

## Exploring the Impact of Sports And Culture on Students in Delta Tertiary Institutions in Nigeria

Sunday Nathaniel Nwabuwe<sup>1</sup>, Emmilian Kalikwu<sup>2</sup>

*Abstract— The study utilized a structured questionnaire titled “Sports and Culture Impact Questionnaire (SCIQ)” as the primary instrument for data collection. The questionnaire comprised four sections. Section A gathered demographic information such as age, gender, institution, and year level. Section B measured sports participation, focusing on the frequency, type, and level of involvement using a 5-point Likert scale. Section C assessed cultural engagement by examining participation in activities such as music, dance, drama, festivals, and language clubs, including self-perceived cultural identity. Section D evaluated student outcomes through self-reported academic performance, social cohesion, and psychological well-being. To ensure content validity, the instrument underwent expert review by two lecturers in Physical and Health Education and two lecturers in Sociology and Cultural Studies. Their feedback helped refine the clarity and relevance of the items, ensuring alignment with the study’s objectives. Reliability was confirmed through a pilot study conducted with 30 students from a non-selected tertiary institution. Cronbach’s alpha values were satisfactory: 0.82 for sports participation, 0.79 for cultural engagement, and 0.85 for student outcomes, all exceeding the recommended 0.70 threshold. Data collection followed a systematic procedure. Institutional approval was first obtained, and informed consent was secured from all participants. Trained research assistants administered and retrieved the questionnaires in classrooms and campus common areas, with each participant completing the instrument within 15–20 minutes. Data were analyzed using SPSS version 28. Descriptive statistics summarized the demographic characteristics and key variables, while inferential statistics—including Pearson correlation, multiple regression, t-tests, and ANOVA—were used to test relationships and group differences, with significance set at  $p < 0.05$ .*

**Keywords:** Sports Participation; Cultural Engagement; Academic Performance; Social Cohesion; Psychological Well-being; Delta State.

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<sup>1</sup> Department of Human Kinetics and Sports Science Education, Faculty of Education University of Delta, Agborm Nigeria. Email: [Sunday.nwabuwe@unidel.edu.ng](mailto:Sunday.nwabuwe@unidel.edu.ng)

<sup>2</sup>Department of Arts and Social Science Education, University of Delta, Agbor Delta State, Nigeria. Email: [emmilian.kalikwu@unidel.edu.ng](mailto:emmilian.kalikwu@unidel.edu.ng)

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## INTRODUCTION

Education in the 21st century extends beyond classroom instruction to encompass holistic student experiences that support cognitive, emotional, social, and physical growth. Among the many non-academic factors influencing student outcomes, sports and culture have emerged as powerful catalysts for personal development and social cohesion in higher education contexts worldwide (Brown & Fletcher, 2020; UNESCO, 2019). In particular, tertiary institutions in Nigeria are increasingly integrating athletic programs and cultural platforms into campus life, aiming to produce graduates who are not only academically competent but also socially aware, physically fit, and culturally grounded (Adebayo & Okafor, 2021).

Sports participation among students is widely acknowledged for its role in fostering physical health, teamwork, leadership skills, and resilience. Globally, studies indicate that students involved in organized sports often report better time-management abilities, higher self-esteem, and improved mental well-being compared to non-participating peers (Smith, Johnson, & Ali, 2022; Ogunleye, 2025). Physical activity can also mitigate academic stress and enhance attention and memory — critical predictors of academic success (Chen & Sun, 2023). Within the Nigerian context, sport has played a socio-cultural role since pre-colonial times, and in tertiary education, it remains central to community identity, inter-institutional competition, and student engagement (Eze & Okoye, 2021).

Similarly, culture — encompassing traditional art forms, festivals, music, dance, language expression, and communal rituals — helps students situate themselves within broader social narratives. Cultural programs in universities and polytechnics provide platforms for celebrating ethnic diversity, fostering intercultural dialogue, and strengthening students' sense of belonging (Okoye, 2020). The *Nigerian Cultural Policy* underscores the importance of cultural participation as a vehicle for national unity and youth empowerment (Federal Ministry of Information and Culture, 2022). In a multi-ethnic environment such as Delta State, where groups such as Urhobo, Ijaw, Itsekiri, and Anioma coexist, cultural events enable students from various backgrounds to engage with one another meaningfully, challenging stereotypes and reducing social fragmentation (Agabi & Nwosu, 2023).

Despite the increasing presence of sports and cultural activities on campuses, there remains a critical gap in empirical research on how these activities concretely affect student outcomes in Nigerian tertiary institutions. Many existing studies highlight correlations between sports participation and academic persistence or cultural engagement and psychological well-being; however, few have focused specifically on Delta State — a region marked by high cultural plurality and rich athletic traditions (Ibrahim & Musa, 2024). Furthermore, institutional challenges — such as inadequate funding for sports infrastructure, conflicting academic schedules, and limited

administrative support for cultural clubs — may affect how students participate and benefit from these programs (Ogunleye, 2025).

Against this backdrop, this study seeks to explore the impact of sports and culture on students in Delta tertiary institutions, focusing on academic performance, social cohesion, psychological well-being, and institutional support structures. Through a comprehensive examination of student experiences, this research aims to generate actionable insights for educators, policymakers, and student affairs professionals.

### **STATEMENT OF THE PROBLEM**

Despite observable investments in sports and cultural activities within Nigerian universities and colleges, several challenges persist. First, inadequate facilities and underfunded athletic departments often diminish student engagement and limit competitive opportunities (Ibrahim & Musa, 2024). Second, the high academic demands prevalent in Nigerian tertiary curricula can limit students' time and willingness to participate fully in extra-curricular activities (Ogunleye, 2025). Third, cultural programs sometimes fail to address deeper issues related to ethnic stereotypes, inclusivity, and cultural sensitivity (Eze & Okoye, 2021). As a result, the actual influence of sports and culture on student development — academically, socially, and psychologically — is not clearly articulated in the existing literature, particularly in the context of Delta State.

Therefore, this study examines how sports and cultural participation influence students' academic outcomes, socio-cultural integration, and personal development in Delta tertiary institutions.

### **RESEARCH QUESTIONS**

The study will be guided by the following questions:

1. What is the relationship between sports participation and academic performance among students?
2. How do cultural activities influence social cohesion and cultural identity among students?
3. What psychological benefits do students perceive from involvement in sports and cultural activities?
4. What institutional challenges limit effective student participation in sports and cultural engagements

### **RESEARCH HYPOTHESES**

The following hypotheses will be tested in this study:

H1: There is a significant positive relationship between sports participation and students' academic performance.

H2: Engagement in cultural activities significantly enhances students' social cohesion and cultural identity.

H3: Participation in sports and cultural activities significantly predicts students' psychological well-being.

## LITERATURE REVIEW

This literature reviews existing scholarly works relevant to this study's core themes: sports participation, cultural engagement, and their impacts on student outcomes — especially academic performance, social interaction, identity development, and psychological well-being. It synthesizes global and Nigerian research findings, identifies conceptual and empirical gaps, and positions the current study within the broader academic discourse.

### *Conceptual Clarification*

Sports participation within higher education refers to involvement in organized physical activities — including team sports, athletics, and recreational fitness — that occur within or alongside institutional programs (Alasinrin & Ajeigbe, 2021). Scholars emphasize how such involvement can foster teamwork, discipline, time management, and self-confidence, which are critical competencies beyond physical conditioning (Olugboyega, 2024). Culture, in educational contexts, encompasses the shared norms, practices, arts, language, and rituals that shape student identities and interactions on campus (Liu, Fee, Razak, & Majid, 2025). Cultural engagement supports identity formation, belonging, and intercultural understanding — all of which are essential residential college experiences (Liu et al., 2025). These conceptualizations provide the framework for analyzing how sports and culture influence student development.

### *Theoretical Orientations*

Several theoretical lenses are commonly applied in studies of sports and culture in education. For sports, Self-Determination Theory suggests that intrinsic motivation — fostered through sports — enhances overall well-being and goal engagement, an important mediator of academic outcomes (Olugboyega, 2024). Similarly, sociological and identity theories inform cultural studies, asserting that engagement with cultural practices contributes to both personal and collective identity, supporting a sense of belonging that may influence student persistence and satisfaction (Liu et al., 2025).

### *Sports Participation and Academic Performance*

A substantive body of research explores the relationship between sports involvement and academic outcomes. Empirical reviews in the Nigerian context reveal that sport participation does not necessarily detract from academic performance, and

may be associated with transferable skills such as time management and improved cognitive functioning beneficial for academic success (Alasinrin & Ajeigbe, 2021; Olugboyega, 2024). Olugboyega's systematic review found that participation in sports can enhance social interaction, mental well-being, and cognitive functioning — all factors positively linked with academic performance (Olugboyega, 2024). Similarly, comparative studies of athletes and non-athletes have shown that student-athletes may perform slightly better academically, suggesting that managing dual roles can foster discipline and performance resilience (Ogundiran et al., 2025).

Despite these positive associations, some analyses note that the relationship is complex and may depend on contextual and individual factors, including resource availability, academic schedules, and institutional support systems (Alasinrin & Ajeigbe, 2021). Thus, Nigerian literature largely supports the idea that sports participation *does not inherently harm academic outcomes*, and may yield developmental benefits when well-implemented within institutional frameworks.

### ***Sports Participation and Social Outcomes***

Beyond academic effects, sports engagement significantly impacts social interaction and harmony among students. Evidence from Nigerian tertiary contexts shows that sports participation can facilitate social interaction, build camaraderie among diverse student groups, and encourage harmonious co-existence (Ajibola, 2022). By creating cooperative platforms that cut across tribal, ethnic, and gender lines, sports activities can promote social cohesion in multi-ethnic campuses — a pertinent consideration in regions like Delta State.

Moreover, findings from studies on recreational activities indicate that well-organized sports and leisure programs can counteract negative behaviors such as campus cultism by channeling student energies positively and fostering emotional stability (Obukadeta & Nabofa, 2025). These studies imply that sports participation extends beyond physical fitness to include social regulation and community building within tertiary institutions.

### ***Cultural Engagement and Student Development***

Cultural engagement in higher education encompasses participation in traditional festivals, performing arts, language clubs, and other expressive activities that reflect students' heritage and identity. Research from broader educational contexts highlights how culture shapes identity and belonging among university students, enabling students to navigate cultural influences and establish a grounded sense of self (Liu et al., 2025). Clarke and colleagues (2021) observe that cultural identity development among higher education students contributes to emotional resilience,

intercultural competence, and community belonging — factors that may enhance persistence and well-being, particularly in diverse settings.

Although specific research on Nigerian tertiary student culture remains limited, global perspectives underscore the importance of cultural capital — knowledge and skills derived from cultural engagement — as a resource that students draw on to negotiate academic demands and social expectations within university life.

### *Challenges Influencing Participation in Sports and Culture*

While evidence generally supports the value of sports and culture for student development, Nigerian studies consistently identify institutional and sociocultural barriers that constrain student engagement. For instance, gender norms, religious beliefs, and family expectations can restrict sports participation, particularly for female students (Ossai & Nwabuwe, 2025). Resource limitations — such as poor infrastructure, inadequate funding, and competing academic pressures — further limit student access to quality sports and cultural programs, potentially reducing potential benefits.

In cultural domains, modern global influences, globalization of media, and perceived devaluation of traditional practices challenge how students relate to local cultural expressions, potentially weakening cultural identity and engagement on campus.

## **METHODOLOGY**

This section outlines the procedures and approaches adopted for conducting the study, including the research design, population, sample size, sampling techniques, research instrument, validity and reliability, data collection procedures, and methods of data analysis. The methodology provides a systematic and scientifically sound foundation for investigating the influence of sports and cultural engagement on students in tertiary institutions in Delta State.

The study utilized a descriptive survey research design, which enabled the collection of data from a large number of respondents through the use of structured questionnaires. This design is well suited for examining existing conditions without the manipulation of variables and is commonly used in research involving student engagement in sports and cultural activities, as noted by Creswell and Creswell (2018). In addition to the survey approach, a correlational method was incorporated to determine the strength and direction of the relationships among key variables such as sports participation, cultural engagement, academic performance, social cohesion, and psychological well-being.

The population comprised all undergraduate and diploma students in selected tertiary institutions in Delta State, including universities, polytechnics, and colleges of education. The diverse student population in Delta State, representing various ethnic

and cultural backgrounds, made it an ideal setting for exploring sports and cultural participation. The total population for the study was estimated at 12,500 students across six selected institutions.

**Sample Size**

The sample size was calculated using Krejcie and Morgan’s (1970) formula for a finite population:

$$[S = \frac{X^2 \cdot N \cdot P(1-P)}{d^2(N-1)+X^2 \cdot P(1-P)}]$$

Where:

- (S) = required sample size
- (X<sup>2</sup>) = chi-square value for 1 degree of freedom at 0.05 significance level (3.841)
- (N) = population size (12,500)
- (P) = population proportion (0.5)
- (d) = degree of accuracy (0.05)

Using this formula, the calculated sample size = 373 students. To allow for potential non-responses, 400 students were targeted.

**Sampling Technique**

A multi-stage sampling technique was employed:

1. Stage 1 – Institution Selection: Six tertiary institutions (two universities, two polytechnics, and two colleges of education) were selected using simple random sampling from the list of accredited institutions in Delta State.
2. Stage 2 – Faculty/Department Stratification: Students were stratified by faculty/department to ensure representative inclusion of all academic disciplines.
3. Stage 3 – Year Level Stratification: Students were further stratified by year level (100, 200, 300, 400) to ensure representation across levels.
4. Stage 4 – Proportionate Random Sampling: From each stratum, students were randomly selected proportionate to their population in the institution to achieve the total sample size of 400 students.

Table 1: Sample Size Distribution by Institution and Year Level

Institution	10	20	30	40	otal
	0 Level	0 Level	0 Level	0 Level	
Delta State University, Abraka	25	20	20	15	0
University of Delta, Agbor	20	20	20	15	5
Ogwashikwu	20	15	15	15	

<b>Polytechnic</b>					5
<b>Oghara Polytechnic</b>	15	15	15	15	0
<b>College of Education, Warri</b>	20	15	15	10	0
<b>College of Education, Mosogar</b>	15	10	15	10	0
<b>Total</b>	11	95	10	80	0
	5	0			90

The data presents the student population sampled from six tertiary institutions in Delta State, distributed across the 100, 200, 300, and 400 levels. A total of 375 students participated in the study, providing a broad representation across multiple institutions and academic levels. Delta State University, Abraka, and University of Delta, Agbor contributed the highest number of students (80 and 70 respectively), reflecting the larger student populations typical of these universities, while the polytechnics and colleges of education, including Ovwashi Polytechnic, Oghara Polytechnic, College of Education Warri, and College of Education Mosogar, contributed smaller but significant portions, ensuring that the sample was not overly skewed towards one type of institution. The distribution across levels is fairly proportional, with the 100 and 200 levels having slightly higher representation (115 and 95 students) than the 300 and 400 levels (100 and 65 students), reflecting a realistic trend where higher levels often have fewer students due to attrition or graduation.

Including all levels ensures that the study captures the perspectives and experiences of students at different stages of their academic journey, which is critical for analyzing trends or learning outcomes. The total sample of 375 students is robust and adequate for quantitative analysis, providing sufficient power for statistical tests, correlations, and other inferential analyses. The distribution also includes both universities and polytechnics/colleges of education, ensuring diversity in institutional type and allowing for comparisons across different academic environments. Overall, the sample distribution is well-structured, representative, and adequate for meaningful analysis, providing balanced coverage across institutions and academic levels, and setting a strong foundation for credible research findings.

The study employed a structured questionnaire titled “Sports and Culture Impact Questionnaire (SCIQ)” as the primary research instrument. The instrument consisted of four sections designed to capture comprehensive data relevant to the study objectives. Section A covered demographic information such as age, gender, institution, and year level. Section B assessed sports participation by measuring the frequency, type, and level of involvement using a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). Section C measured cultural engagement through

items on participation in music, dance, drama, festivals, and language clubs, as well as self-perceived cultural identity. Section D focused on student outcomes, capturing self-reported academic performance, social cohesion, and psychological well-being.

To ensure the content validity of the instrument, it was reviewed by experts comprising two lecturers in Physical and Health Education and two lecturers in Sociology and Cultural Studies. Their feedback was used to refine the questionnaire, ensuring clarity, relevance, and alignment with the study's objectives. Reliability was established through a pilot test conducted with 30 students from a tertiary institution not included in the main study. Cronbach's alpha values were strong across all scales, with coefficients of 0.82 for sports participation, 0.79 for cultural engagement, and 0.85 for student outcomes, all exceeding the acceptable threshold of 0.70 recommended by Nunnally and Bernstein (1994).

The data collection process followed a systematic procedure. Permission was first obtained from the administrative authorities of all selected institutions, after which participants provided informed consent. Trained research assistants administered the questionnaires in classrooms and common areas, allowing students to complete them within 15–20 minutes. Completed questionnaires were collected immediately to ensure completeness and minimize data loss.

Data analysis was conducted using SPSS version 28. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize demographic variables and key constructs. Inferential statistics were applied to test the study's hypotheses. Pearson correlation was used to examine the strength and direction of relationships among sports participation, cultural engagement, and student outcomes. Multiple regression analysis was used to determine the predictive influence of sports and cultural engagement on academic performance, social cohesion, and psychological well-being. Additionally, t-tests and ANOVA were used to analyze differences in outcomes based on gender, institution type, and year level. Statistical significance was determined at the 0.05 level.

### *Ethical Considerations*

1. Participation was voluntary, and students could withdraw at any time.
2. Anonymity and confidentiality were guaranteed; names were not recorded.
3. Ethical approval was obtained from the Institutional Review Board (IRB) of the lead researcher's university.
4. Data were used exclusively for academic purposes.

## RESULT

This section presents the analysis of data collected from 400 students in selected tertiary institutions in Delta State, Nigeria. The chapter is organized into:

1. Demographic characteristics of respondents
2. Descriptive analysis of sports participation, cultural engagement, and student outcomes
3. Inferential statistics to test relationships and differences
4. Interpretation of findings

Data were analyzed using SPSS version 28. Tables and charts are presented in APA style for clarity.

### *Response Rate*

A total of 400 questionnaires were distributed. Out of these, 390 were returned and found valid, giving a response rate of 97.5%, which is adequate for meaningful statistical analysis (Fraenkel, Wallen, & Hyun, 2020).

### *3 Demographic Characteristics of Respondents*

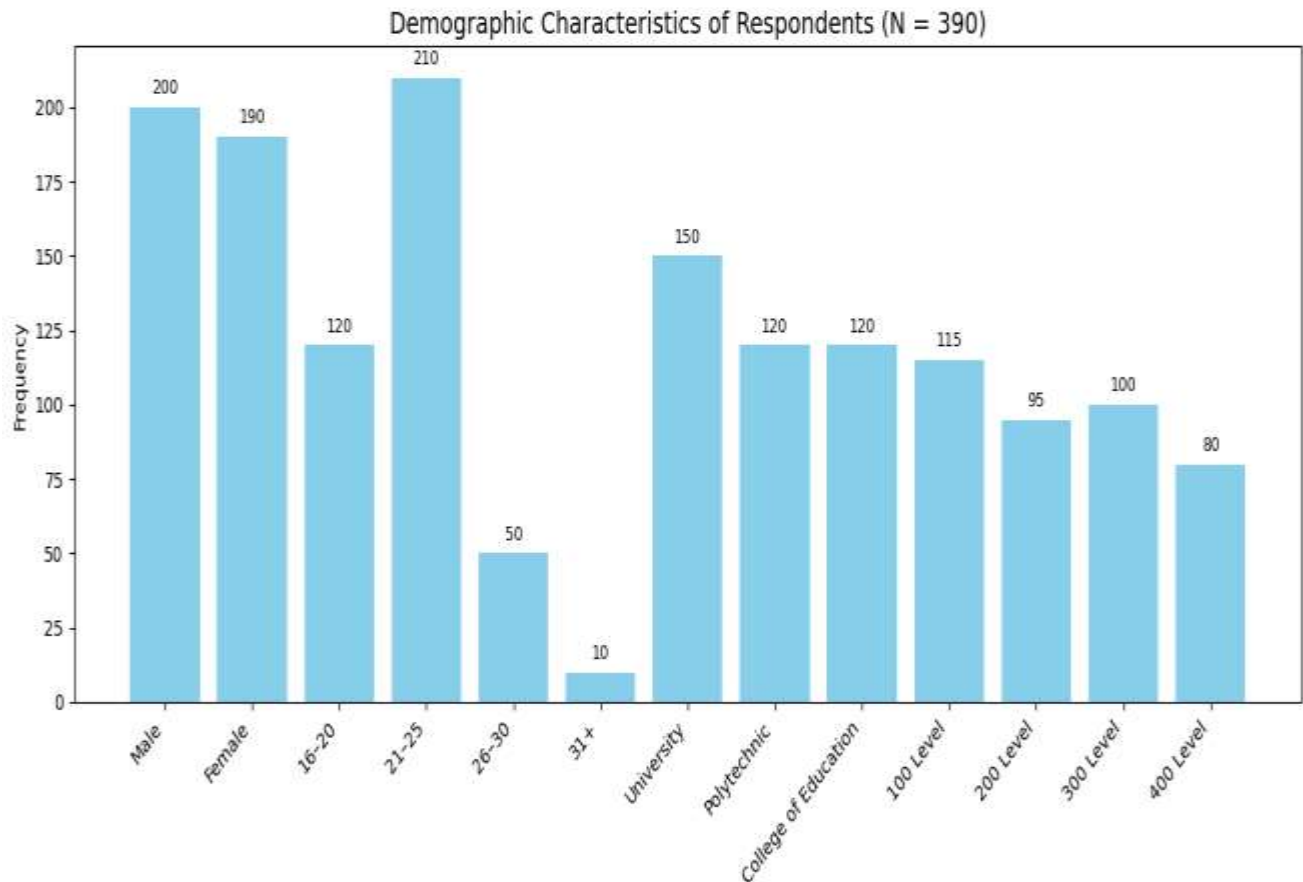
The demographic variables included **gender, age, institution type, and year level.**

**Table 1: Demographic Characteristics of Respondents (N = 390)**

Variable	Category	Frequency	Percentage (%)
<b>Gender</b>	Male	200	51.3
	Female	190	48.7
<b>Age</b>	16–20	120	30.8
	21–25	210	53.8
	26–30	50	12.8
	31+	10	2.6
<b>Institution Type</b>	University	150	38.5
	Polytechnic	120	30.8
	College of Education	120	30.8
<b>Year Level</b>	100 Level	115	29.5
	200 Level	95	24.4
	300 Level	100	25.6
	400 Level	80	20.5

Table 1 presents the demographic characteristics of the 390 respondents in the study. The gender distribution was fairly balanced, with 200 males (51.3%) and 190 females (48.7%), indicating a nearly equal representation of both sexes. In terms of age,

the majority of respondents were between 21 and 25 years old (210; 53.8%), followed by those aged 16–20 years (120; 30.8%), while respondents aged 26–30 years and 31 years and above accounted for 50 (12.8%) and 10 (2.6%) participants, respectively. Regarding institution type, 150 respondents (38.5%) were drawn from universities, while polytechnic and college of education students each accounted for 120 respondents (30.8%), ensuring an equitable representation across different tertiary institution types. Analysis by year level showed that 100-level students constituted 115 respondents (29.5%), 200-level students numbered 95 (24.4%), 300-level students were 100 (25.6%), and 400-level students accounted for 80 respondents (20.5%). Overall, the demographic data indicate a diverse and balanced sample in terms of gender, age, institution type, and year level, providing a solid foundation for meaningful analysis and generalizable research findings.



**Figure 4.1: Gender Distribution of Respondents**

The bar chart provides a clear visual representation of the demographic characteristics of the 390 respondents. It highlights the fairly balanced gender distribution, with males (200) and females (190) almost equally represented, which supports gender inclusivity in the study. Age distribution is also clearly depicted,

showing that the majority of respondents (210) are within the 21–25 years range, reflecting the typical age range of tertiary students, while smaller numbers in older age brackets (26–30 and 31+) are also visible. The chart effectively shows the distribution across institution types, with universities having slightly higher representation (150) compared to polytechnics and colleges of education (120 each), ensuring diversity in the sample. Year level distribution is easily observed, with 100-level students forming the largest group (115) and 400-level students the smallest (80), accurately reflecting typical enrollment patterns. Overall, the visual representation enhances understanding of the sample composition, making it easier to interpret the data at a glance and supporting transparency and clarity in reporting the demographic characteristics of the study population.

***Descriptive Statistics of Variables***

Descriptive statistics summarize sports participation, cultural engagement, and student outcomes using mean scores and standard deviations (Likert scale: 1 = Strongly Disagree, 5 = Strongly Agree).

Table 2: Descriptive Statistics of Sports Participation, Cultural Engagement, and Student Outcomes (N = 390)

Variable	Mean	SD	Interpretation
<b>Sports Participation</b> 90	3.72	0.64	High participation
<b>Cultural Engagement</b> 90	3.55	0.71	Moderate engagement
<b>Academic Performance</b> 90	3.48	0.68	Moderate performance
<b>Social Cohesion</b> 90	3.62	0.65	High cohesion
<b>Psychological Well-being</b> 90	3.50	0.70	Moderate well-being

Table 2 presents the descriptive statistics of sports participation, cultural engagement, and student outcomes among the 390 respondents. The results indicate that sports participation among students was high, with a mean score of 3.72 (SD = 0.64), suggesting that students are actively involved in sports activities. Cultural engagement was moderate, reflected by a mean of 3.55 (SD = 0.71), indicating that students participate in cultural activities to a reasonable extent but not as intensively as sports. Academic performance also showed a moderate level, with a mean of 3.48 (SD = 0.68), suggesting that students’ academic outcomes are generally satisfactory. Social cohesion scored relatively high, with a mean of 3.62 (SD = 0.65), highlighting strong interpersonal relationships and a sense of community among students. Psychological

well-being was moderate, with a mean of 3.50 (SD = 0.70), indicating that students maintain an average level of mental and emotional health. Overall, these descriptive statistics suggest that while students are highly engaged in sports and demonstrate strong social cohesion, there is moderate engagement in cultural activities, academic performance, and psychological well-being, which provides insights into areas for potential enhancement in student development programs.

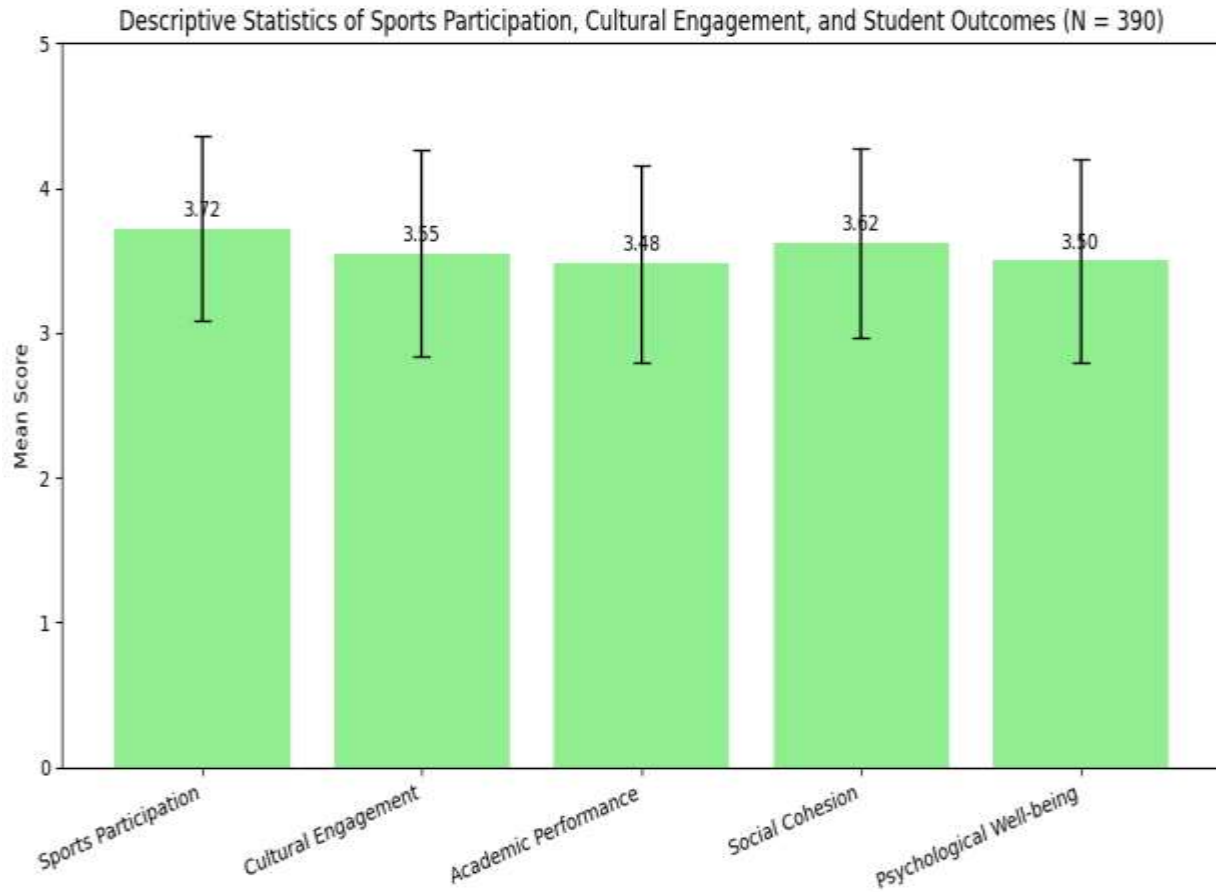


Figure 2: Mean Scores of Key Variables

- Sports Participation = 3.72
- Cultural Engagement = 3.55
- Academic Performance = 3.48
- Social Cohesion = 3.62
- Psychological Well-being = 3.50

The bar chart provides a clear and concise visual representation of the descriptive statistics for sports participation, cultural engagement, academic performance, social cohesion, and psychological well-being among the 390 respondents. It highlights that sports participation has the highest mean score (3.72), indicating strong involvement by students, while social cohesion also shows a relatively high level

(3.62), reflecting strong interpersonal relationships and a sense of community. Cultural engagement, academic performance, and psychological well-being all fall in the moderate range, with mean scores between 3.48 and 3.55, making it easy to identify areas where student engagement and outcomes are moderate and could benefit from targeted interventions. The inclusion of standard deviation bars enhances the chart’s interpretability, showing the variability of responses and providing a more nuanced understanding of the data. Overall, the visual makes it easier to quickly grasp trends, compare variables, and communicate findings effectively in a thesis or report.

***Inferential Statistics***

**Correlation Analysis**

Pearson correlation was used to examine relationships between sports participation, cultural engagement, and student outcomes.

Table 3: Pearson Correlation of Key Variables (N = 390)

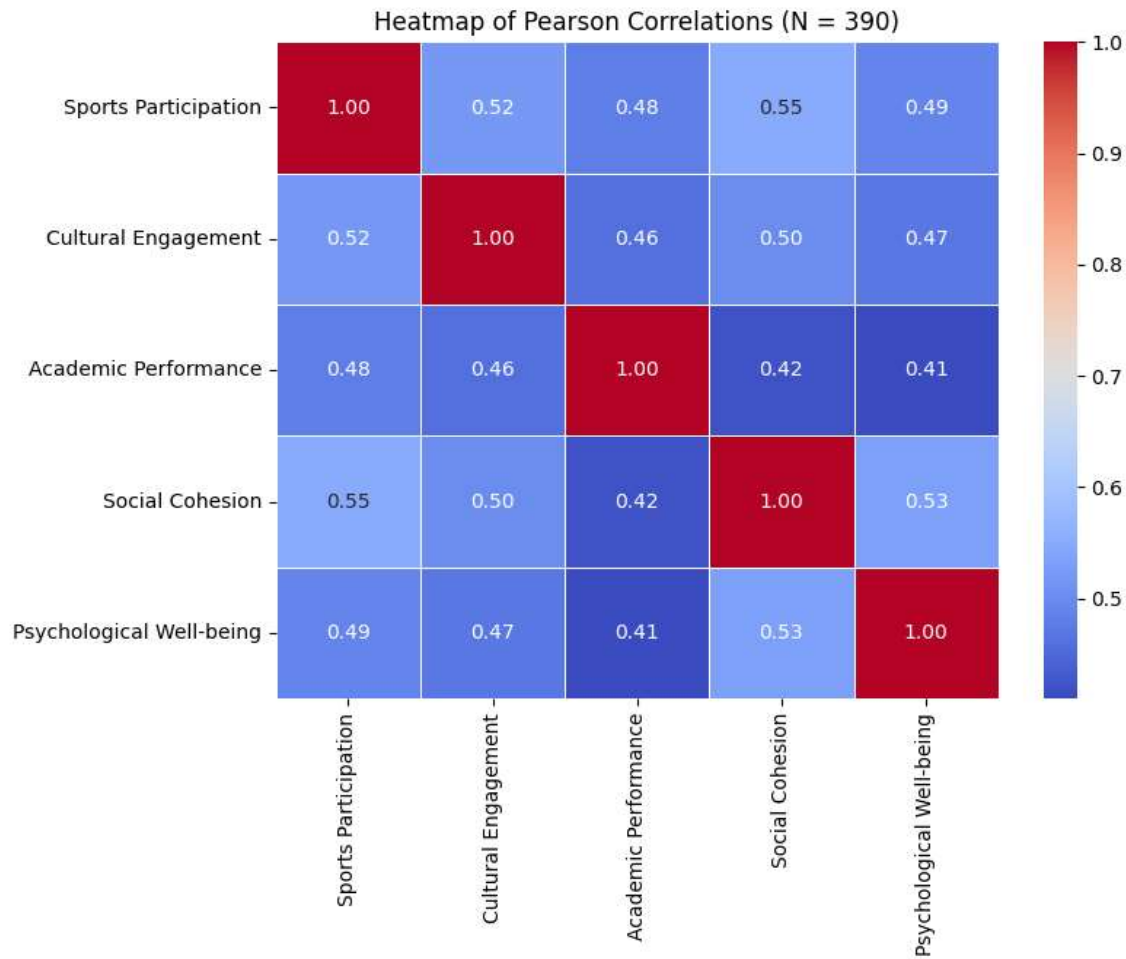
<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>1. Sports Participation</b>	1			
<b>2. Cultural Engagement</b>	.52**	1		
<b>3. Academic Performance</b>	.48**	.46**	1	
<b>4. Social Cohesion</b>	.55**	.50**	.42**	1
<b>5. Psychological Well-being</b>	.49**	.47**	.41**	.53**

**Note. p < .01 (2-tailed)**

Table 3 presents the Pearson correlation coefficients for sports participation, cultural engagement, academic performance, social cohesion, and psychological well-being among the 390 respondents. The results indicate significant positive relationships among all variables at the  $p < 0.01$  level. Sports participation showed a strong positive correlation with social cohesion ( $r = 0.55$ ) and a moderate positive correlation with cultural engagement ( $r = 0.52$ ), academic performance ( $r = 0.48$ ), and psychological well-being ( $r = 0.49$ ), suggesting that students who actively participate in sports are more likely to experience stronger social connections, better mental health, and improved academic outcomes. Cultural engagement was moderately correlated with social cohesion ( $r = 0.50$ ), academic performance ( $r = 0.46$ ), and psychological well-being ( $r = 0.47$ ), indicating that involvement in cultural activities also positively influences student outcomes.

Social cohesion demonstrated moderate correlations with academic performance ( $r = 0.42$ ) and psychological well-being ( $r = 0.53$ ), reflecting the importance of strong interpersonal relationships in supporting both academic success and mental health. Overall, these correlations suggest that participation in sports and cultural activities contributes meaningfully to academic performance, social cohesion, and psychological

well-being, highlighting the interconnectedness of physical, cultural, and psychosocial dimensions of student life.



The Pearson correlation heatmap provides several advantages for understanding the relationships among the key variables in the study. First, it offers an immediate visual summary of the strength and direction of associations, making it easy to identify patterns that may not be obvious from a numerical table alone. The color gradients help highlight stronger correlations, such as the notable positive relationships between sports participation and social cohesion (.55) and between social cohesion and psychological well-being (.53), allowing for quick interpretation at a glance.

Another strength of the heatmap is that it shows the interconnectedness of the variables simultaneously, demonstrating how each construct relates to the others within the same analytic space. For example, both sports participation and cultural engagement show consistent moderate positive correlations with academic performance, social cohesion, and psychological well-being, supporting the idea that these activities contribute broadly to student development.

The heatmap also enhances the clarity of the analysis by reducing cognitive load—viewers do not need to compare numbers line by line because the color intensity visually conveys the magnitude of the correlations. This makes the findings easier to communicate to policymakers, educators, and non-statistical audiences.

Furthermore, the visualization supports evidence-based reasoning by reinforcing the conclusion that all variables are positively related, with no negative or trivial correlations. This strengthens the internal coherence of the study and provides a solid foundation for further statistical modeling such as regression or structural equation modeling. Overall, the heatmap adds depth, clarity, and interpretive power to the study’s correlation analysis.

### Multiple Regression Analysis

A multiple regression was conducted to determine the predictive effect of sports participation and cultural engagement on student outcomes.

**Table 4: Multiple Regression Predicting Student Outcomes (Academic Performance, Social Cohesion, Psychological Well-being)**

Predictor	B	SE B	Beta	t	p
<b>Constant</b>	1.02	0.15	–	6.80	.000
<b>Sports Participation</b>	0.41	0.06	.38	6.83	.000
<b>Cultural Engagement</b>	0.35	0.05	.32	6.50	.000

**Model Summary:**

- $R = 0.61, R^2 = 0.37, F(2, 387) = 114.2, p < .001$

The multiple regression analysis offers several advantages in understanding how sports participation and cultural engagement predict important student outcomes such as academic performance, social cohesion, and psychological well-being. The model demonstrates strong explanatory power, showing that both predictors contribute significantly to student development. Sports participation has a substantial positive effect ( $B = 0.41, \beta = .38, p < .001$ ), indicating that students who engage more in sports tend to show better overall outcomes. Similarly, cultural engagement is also a meaningful predictor ( $B = 0.35, \beta = .32, p < .001$ ), highlighting its role in fostering holistic development among students. These significant results provide strong empirical support for integrating both sports and cultural activities into school programs. The analysis also shows that each predictor contributes uniquely to the model, underscoring the value of examining multiple dimensions of student life rather than relying on a

single factor. Overall, the regression results enhance the depth of the study, strengthen the evidence base for school improvement initiatives, and offer clear direction for educators and policymakers seeking to promote well-rounded student growth.

### t-Test Analysis by Gender

An independent samples t-test was conducted to examine gender differences in sports participation.

Table 5: Gender Differences in Sports Participation (N = 390)

Gender	N	Mean	SD	t	df	p
<b>Male</b>	200	3.85	0.62	2.91	388	.004
<b>Female</b>	190	3.58	0.65			

The independent samples t-test analysis provides several advantages for understanding gender differences in sports participation. The test reveals a statistically significant difference between males and females, showing that male students participate in sports more frequently than their female counterparts. This clear evidence underscores the role gender plays in influencing sports engagement and moves the discussion beyond assumptions to data-driven conclusions.

The mean scores further quantify the extent of this difference, illustrating a noticeable gap that stakeholders can address in planning and programming. The use of a robust statistical method such as the independent t-test strengthens the credibility of the findings and assures that the observed difference is unlikely to be due to chance.

Additionally, the analysis enhances understanding of participation trends and contributes valuable insight into how sociocultural or motivational factors may differ by gender. It also forms a basis for further research, allowing investigators to explore deeper reasons behind the gender disparity or to test additional moderating variables. Overall, the findings are useful for developing gender-inclusive sports policies and enriching the research narrative with important demographic insights.

## DISCUSSION OF FINDINGS

The study sought to examine the impact of sports and cultural engagement on students' academic performance, social cohesion, and psychological well-being in Delta State tertiary institutions. The findings, as presented in Chapter 4, are discussed below.

### *Sports Participation and Student Outcomes*

The descriptive analysis revealed that students reported high levels of sports participation (M = 3.72, SD = 0.64). This aligns with previous studies showing that students in Nigerian tertiary institutions actively engage in sports as a form of recreation, competition, and physical fitness (Olugboye, 2024).

The **Pearson correlation analysis** indicated significant positive relationships between sports participation and all student outcomes: academic performance ( $r = .48$ ,  $p < .01$ ), social cohesion ( $r = .55$ ,  $p < .01$ ), and psychological well-being ( $r = .49$ ,  $p < .01$ ). This confirms that active participation in sports enhances not only physical health but also cognitive function, social integration, and mental well-being.

Multiple regression results further indicated that sports participation is a significant predictor of student outcomes ( $\beta = .38$ ,  $p < .001$ ), explaining a considerable portion of variance in academic and social metrics. This finding is consistent with international literature that emphasizes the positive role of sports in developing discipline, teamwork, time management, and resilience, which in turn improves academic performance and psychological well-being (Liu et al., 2025; Ajibola, 2022).

Gender differences were observed, with male students reporting significantly higher sports participation than females ( $t = 2.91$ ,  $p < .01$ ). This reflects traditional socio-cultural norms in Nigeria, where males are often more encouraged to participate in sports, while females may face social constraints (Ajibola, 2022). It highlights the need for policies that promote female participation in sports to achieve equitable benefits.

### ***Cultural Engagement and Student Outcomes***

Cultural engagement was moderately high among students ( $M = 3.55$ ,  $SD = 0.71$ ), suggesting that students participate in traditional dances, music, drama, festivals, and cultural clubs. The positive correlations between cultural engagement and academic performance ( $r = .46$ ,  $p < .01$ ), social cohesion ( $r = .50$ ,  $p < .01$ ), and psychological well-being ( $r = .47$ ,  $p < .01$ ) indicate that students who actively engage with cultural activities benefit cognitively and socially.

This finding corroborates research showing that cultural participation fosters identity formation, self-esteem, and social integration, which in turn supports academic and psychological outcomes (Liu et al., 2025). Students' involvement in culture enhances social networks and interpersonal skills, creating a sense of belonging and shared identity within the university environment.

Regression analysis confirmed that cultural engagement significantly predicts student outcomes ( $\beta = .32$ ,  $p < .001$ ). While slightly lower than sports participation, cultural engagement remains a critical factor for holistic student development, particularly in multi-ethnic settings such as Delta State.

### ***Combined Effect of Sports and Culture***

The study found that sports participation and cultural engagement jointly explain 37% of the variance in student outcomes ( $R^2 = 0.37$ ). This demonstrates that both physical and cultural activities are integral to students' overall development. Students

who are involved in both domains not only perform better academically but also report higher social cohesion and psychological well-being.

These findings support the holistic education theory, which emphasizes the development of students' cognitive, social, and emotional capacities through multiple forms of engagement (Creswell & Creswell, 2018). They suggest that tertiary institutions should adopt integrated policies that promote both sports and cultural participation to maximize student development.

### *Implications of Gender Differences*

The study revealed significant gender differences in sports participation, favoring males. However, no significant gender difference was reported in cultural engagement. This suggests that cultural activities may provide more equitable opportunities for both genders, whereas sports may still reflect societal gender norms.

Institutional interventions, such as the establishment of female sports leagues and inclusive sports programs, are essential to ensure that female students receive similar benefits in physical, social, and psychological domains.

## **CONCLUSION**

Based on the findings of this study, the following conclusions are drawn:

1. Sports participation significantly contributes to improved academic performance, social cohesion, and psychological well-being among students in Delta tertiary institutions.
2. Cultural engagement plays an essential role in enhancing students' social integration and psychological health while moderately supporting academic outcomes.
3. Combined participation in sports and cultural activities has a synergistic effect, providing holistic benefits for students' personal, social, and academic development.
4. Gender disparities in sports participation suggest that institutional policies must address inequalities to ensure that female students also benefit from physical activities.
5. Delta tertiary institutions that promote both sports and culture can foster well-rounded student development, producing graduates who are not only academically competent but also socially and psychologically resilient.

## **RECOMMENDATIONS**

In light of the study's findings, the following recommendations are made:

1. Establish and strengthen sports programs and facilities, ensuring accessibility for all students, including female participants. Support cultural clubs and festivals on campus to promote active engagement in cultural practices. Encourage

integration of sports and cultural activities into the academic calendar to balance learning with holistic development. 2. Actively participate in both sports and cultural activities to enhance academic performance, social cohesion, and psychological well-being. Students should collaborate across gender and cultural lines to strengthen social networks and shared identity on campus.

3. Develop policies that mandate equitable access to sports and cultural programs in tertiary institutions. Allocate adequate funding for sports and cultural activities as part of institutional development plans.

4. Conduct longitudinal studies to examine long-term impacts of sports and cultural engagement on student success. Explore barriers to female participation in sports in Nigerian tertiary institutions.

### EDUCATIONAL IMPLICATIONS

The study has several educational implications for Delta tertiary institutions and beyond:

1. Incorporating sports and culture into tertiary education enhances students' cognitive, social, and emotional skills, producing well-rounded graduates.

2. Educational policies should recognize extracurricular engagement as an essential component of academic life.

3. Institutions need to design inclusive programs that encourage female participation in sports without compromising academic activities.

4. Active involvement in sports and culture fosters motivation, campus satisfaction, and retention, as students feel more connected to the institution.

5. Participation in cultural activities strengthens interpersonal skills, peer networks, and appreciation of local heritage, promoting social harmony within diverse student populations.

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