# ASSESSMENT OF THE ROLE OF SPORTING ACTIVITIES AMONG UNDERGRADUATE STUDENTS IN SELECTED TERTIARY INSTITUTIONS IN BENIN CITY, EDO STATE

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**EDO STATE, NIGERIA.**

**SEPTEMBER, 2025**

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**BEING A ONE-YEAR PROJECT PRESENTED TO THE DEPARTMENT OF PUBLIC HEALTH AND COMMUNITY MEDICINE, SCHOOL OF MEDICINE, COLLEGE OF MEDICAL SCIENCES, UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, NIGERIA**

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**SEPTEMBER, 2025**

## DEDICATION

I dedicate this work to the God Almighty, and to my lovely parents who have given their all to see me through the years of medical school.

## CERTIFICATION

This is to certify that this research work titled "**ASSESSMENT OF THE ROLE OF SPORTING ACTIVITIES AMONG UNDERGRADUATE STUDENTS IN SELECTED TERTIARY INSTITUTIONS IN BENIN CITY, EDO STATE**" was conducted by Ekajeh Talent Ebrubaoghene with matriculation number **MED1706201** under the supervision of **Prof. A. I. Obi** in the Department of Public Health and Community Medicine, College of Medical Sciences, University of Benin as part of the requirements for the award of Bachelor of Medicine, Bachelor of Surgery (MBBS) degree.

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## DECLARATION

I hereby declare that this research project titled "**ASSESSMENT OF THE ROLE OF SPORTING ACTIVITIES AMONG UNDERGRADUATE STUDENTS IN SELECTED TERTIARY INSTITUTIONS IN BENIN CITY, EDO STATE**'' was conducted under supervision and has neither been presented nor published anywhere else in part or in full for any other purpose.

_____

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With profound humility, I return all the glory to the Creator of Heaven and earth and the Author and Finisher of our faith. Jehovah has indeed been my Shield and Buckler throughout medical school.

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## LIST OF ABBREVIATIONS

**AAQ:** Academic Achievement Questionnaire

**BIU:** Benson Idahosa University

**BMS:** Basic Medical Sciences

**EBBS:** Exercise Benefits and Barriers Scale

**EQ5D-51:** EuroQol5 Dimension

**IPAQ:** International Physical Activity Questionnaire

**LSC:** Life Sciences

**NCDs:** Non-communicable Diseases

**NICEGA:** Nigeria College of Education Games Association

**NIPOGA:** Nigeria Polytechnic Games Association

**NUGA:** Nigeria University Games Association

**PA:** Physical Activity

**SSQ8:** Shona Symptoms Questionnaire 8

**UNIBEN:** University of Benin

**WHO:** World Health Organization

## DEFINITION OF TERMS

**Attitude:** a predisposition or evaluation, either positive or negative, that individuals hold toward an object, person, group, or situation.

**Leisure:** time spent outside of work, study, or other obligations, during which individuals engage in activities of their choosing for relaxation, enjoyment, or personal development

**Physical Activity:** any bodily movement produced by skeletal muscles that requires energy expenditure.

**Physical Inactivity:** a lack of sufficient physical activity required to meet recommended health guidelines.

**Sedentary Behaviour:** activities that involve sitting, reclining, or lying down with low levels of energy expenditure.

**Sports:** organized physical activities or games that involve competition, skill development, and structured rules or regulations.

## ABSTRACT

**Background:** Physical inactivity is a major global public health concern, contributing to the rise of non-communicable diseases (NCDs) and premature mortality. Despite the widely acknowledged importance of sporting activities for physical, mental, and social well-being, there is a dearth of comprehensive data on the participation of undergraduate students in Nigeria. Understanding the role of sports among this population is crucial for developing effective health promotion strategies.

**Objectives:** To assess the role of sporting activities among undergraduate students in selected tertiary institutions in Benin City in order to inform policy and program development regarding sports.

**Methodology:** A descriptive cross-sectional study was conducted among 400 undergraduate students in selected tertiary institutions in Benin City, Edo State. Data was collected using a pretested, self-administered questionnaire. The study utilized the International Physical Activity Questionnaire (IPAQ), the Exercise Benefits and Barriers Scale (EBBS), and the Academic Achievement Questionnaire (AAQ) as tools. Data was entered and analyzed using IBM SPSS version 25.0. Bivariate and multivariate analysis was conducted, with the level of significance set at $p < 0.05$.

**Results:** The mean age of respondents was 21.95 ± 2.834 years, with a slight predominance of females 207 (51.7%). Knowledge of sporting activities was poor with only a little over one-third 147 (36.8%) of the undergraduates demonstrating good knowledge of sporting activities. Majority 292 (73.0%) of undergraduates expressed a positive attitude towards sporting activities. Only 135 (33.8%) of the undergraduates participated in sporting activities. The most common sports were running (49.8%), football (45.8%), and high jump (41.1%). Key determinants of

non-participation included lack of time and heavy academic workload. Students who engaged in sporting activities had better academic performance compared to those who did not, though it was not statistically significant.

**Conclusion:** Although undergraduate students largely possess a positive attitude towards sporting activities, their knowledge is low and participation is low. The study highlights the need for structured interventions to improve knowledge and remove the structural barriers to participation, which, in turn, contribute positively to the academic performance of students.

**Keywords:** Undergraduates, sporting activities, knowledge, attitude, prevalence, determinants, academic performance, Benin City.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background

Sports is one of the many ways to be physically active and improve health. [1] Sports and health go hand in hand, offering people all over the world, of different abilities and ages, the chance for happier, healthier and more productive lives**.** [2] Sports and physical activity have multifaceted impact on individuals and society, including physiological, psychosocial and personal development, as well as reduced alcohol consumption, injuries, eating disorders, and burnout. [3] Physical activity lifts people's moods, improves focus and concentration and provides protection against cardiovascular diseases, cancer, diabetes and other noncommunicable diseases (NCDs). Participation in sports has great potential to improve physical and mental well-being and to encourage positive life choices. [4] Understandimg the factors that influence sports participation among college students is critical to promoting a physically active lifestyle and can lead to the development of effective strategies to promote sports participation among college students. [5] Promoting and encouraging participation in recreational activities can greatly enhance students' overall well-being and contentment with life. [6]

The WHO Sport for Health Programme was established in 2018 to capitalize on the great potential of helping people worldwide lead healthy lives through promoting participation in sports and working with the sports community to advance health for all. The program builds on a long-standing partnership between the WHO and the International Olympic Committee (IOC), dating back to 1984. The overall objective of the WHO Sport for Health Programme is to accelerate progress on Sustainable Development Goal 3, which is to ensure healthy lives and

promote well-being for all at all ages by implementing WHO's 13th General Programme of Work for achieving universal health coverage, addressing health emergencies and promoting healthier populations. [2,7]

The value of sport towards the Sustainable Development Goals including is well-documented, including for the prevention and management of noncommunicable diseases. However, ensuring access to sports for all requires ongoing and intentional cross-sector efforts. [1] For these reasons, WHO recommends that adults undertake at least 150 minutes of moderate physical activity every week, and the more the better. [4] The WHO provides specific guidelines for physical activity that vary according to age groups, recognizing the distinct health needs and capabilities of different populations.[1] For adults aged 18–64 years, which includes the majority of undergraduate students, the WHO recommends at least 150–300 minutes of moderate-intensity aerobic physical activity or at least 75–150 minutes of vigorous-intensity aerobic physical activity per week or an eq uivalent combination of both. [8] For additional health benefits, they should increase their moderate-intensity physical activity to 300 minutes per week, or equivalent. Also, adults in this age group should engage in muscle-strengthening activities involving all major muscle groups on two or more days a week, as these exercises provide significant health benefits.[8]

Sporting activities include a broad range of physical exercises from individual sports like swimming and running to team sports like basketball and football, with participation rates differing based on demographic factors like age, gender, educational background and socio-economic status. [9-12] Participating in sports regularly offers significant health advantages entailing lowering the risk of chronic conditions like obesity, diabetes, and heart problems.

Furthermore, it positively impacts mental well-being by alleviating anxiety and depression, elevating mood, and increasing overall happiness. [13-17]

Participation in sporting activities is associated with higher grades among students in tertiary institutions. Consequently, apart from the health benefits conferred on practitioners, sporting activities lead to the attainment of the performance goals to which higher education institutions aspire. [18] Studies have shown that students who regularly engage in physical activities often exhibit improved concentration, memory, and cognitive function.[14-17,22,23]

The determinants of participation in sporting activities are multifaceted and can be broadly categorized into individual, social, and environmental factors. [28,29] Personal motivation, health status, physical ability, and previous sports experience represent individual determinants. [30,31] Social determinants involve influences from family, peers, and social networks, which can significantly impact an individual's decision to engage in sports. [8] Environmental factors include availability and accessibility of sports facilities, safety of the environment, and institutional support.[32,33]

Attitudes towards sporting activities are determined by a combination of individual beliefs, cultural values, and personal experiences. [25] Positive attitudes towards sports are a strong predictor of higher participation levels, as individuals with this outlook are more likely to perceive sports as enjoyable and beneficial, leading to regular participation.[12,30,35]

The oldest organised sporting event is the Ancient Olympic Games which began in 776 BC in Olympia, Greece. The games were held on an official basis every four years and included running, long jump, shot put, javelin, boxing, pankration and equestrian events. It served as the inspiration for the modern Olympic Games, first staged in Athens in 1896. [36.37]

The trajectory of sports development in Nigeria represents a dynamic process characterized by initiatives aimed at harnessing the country's vast athletic talent and promoting physical activity across all levels of society. [32,39]

While informal or traditional sports in Nigeria dates back to the 19th century in villages and within ethnic groups, Missionaries introduced formal sports at about 1910 with the introduction of Empire Day competitions, which were organized on inter-schools basis. [40]

Administratively, Sports in Nigeria is administered by management structures such as Sports Federations, Sports Councils at the State level and at the National level through the National Sports Commission. The Nigerian government has deployed several policies in order to improve sports infrastructure, increase funding, and provide training programs to nurture young athletes.[39,40] Sports administration and practice in Nigeria have taken a new and great dimension, thereby becoming a big commercial venture and employer of labour. [40]

At the college and university level, sports administration (Intramural and Interscholastic) falls under the Sports Council, with the Director maintaining direct communication with the Vice Chancellor. Beyond individual institutions, there are inter-collegiate sports associations like the Nigerian University Games Association (NUGA), Nigerian Polytechnic Games Association (NIPOGA), and Nigerian Colleges of Education Games Association (NICEGA), each governed by its body. Notably, NUGA is governed by the NUGA Council, comprising representatives from member universities, with its secretariat based at the National University Commission. [41]

Nigerian universities and colleges have made notable advancements in providing sports opportunities, but more efforts are needed to cater to the increasing demands and potential of their students. These initiatives seek to promote students' physical health, teamwork, leadership, and school spirit, ultimately contributing to the holistic growth of the educational system in Nigeria.[21,32,43]

The Nigerian University Games (NUGA) is a biennial event founded in July 1965 that brings together students from universities across Nigeria. Since inception, it has had over 80 universities (private and public) and more than 75,000 athletes participanting in 18 events including athletics, football, basketball, swimming, volleyball, tennis, chess, and more. Their mission is to integrate sports into education and foster development through competitions, seminars, and forums. [45] Nigeria Polytechnic Games Association (NIPOGA) was inaugurated in 1976, and The Polytechnic Ibadan hosted the maiden edition. The objectives of the association are to foster national unity and cohesion, mutual understanding and better exchange of academic ideas among students and the officials from various Nigeria polytechnics. NIPOGA comprises of various Polytechnics in Nigeria who came together as a bid to bring national unity through sports. NIPOGA sports programme consist of fifteen sports, which are athletics, swimming, basketball, badminton, judo, squash, table, tennis, handball, hockey, chess, taekwondo, scrabble, volleyball and football. [46] The Nigerian Colleges of Education Games Association (NICEGA) conducted the first NICEGA games amongst colleges of education in 1978 and it offered tremendous opportunities for students to participate in a wide variety of sports with great enthusiasm. [47]

## 1.2 Statement of problem

Physical inactivity is a major global public health issue responsible for about 3.2 million deaths annually, placing it as the fourth highest risk factor for global mortality, surpassing dangers such as unsafe sex, undernutrition, and alcohol use. [48] It also leads to over one-fourth of heart disease and diabetes deaths, as well as more than one-fifth of breast and colon cancer cases, attributed to insufficient physical activity levels. [48]

Globally, nearly one-third of adults(31%) fail to meet the recommended physical activity guidelines, with disparities between genders and income levels evident. [48] This pattern is worrisome, particularly in low- and middle-income countries, which bear the brunt of physical inactivity-related mortality, accounting for 2.6 million deaths annually. Even in low-income countries, physical inactivity ranks among the top ten risk factors for death, highlighting the pervasive nature of this issue across all economic strata.[48]

Physical inactivity increases risk for noncommunicable diseases (NCDs) and other poor health outcomes. Together, physical inactivity and sedentary behaviours are contributing to the rise in NCDs and placing a burden on healthcare systems. [49] Sadly, low income countries and communities bear the greatest burden of the health effects of NCDs because the people living there have less access to health services and seldom have insurance or social protection to help them cope with the economic and social consequences of early death and disability. [48]

The impact of physical inactivity extends beyond individual health outcomes, affecting health systems, environmental sustainability, economic development, community well-being, and overall quality of life.[27,43,50] Globally, it is estimated that the cost of physical inactivity to public health care systems between 2020 and 2030 is about US$ 300 billion (approximately US$ 27 billion per year) if levels of physical inactivity are not reduced. [49]

### 1.3 Justification of study

The importance of participation in sporting activities as a major contributor to healthy lifestyle is widely acknowledged , with significant contributions to physical, mental, and social well-being.[49] The relavance of sporting activities cannot be overemphasized taking into consideration that Nigerian undergraduate students experience varying degrees of stress during their tertiary education in universities, polytechnics, and colleges of education. [51] Despite the well-documented advantages, there is a dearth of comprehensive data on the participation of undergraduate students in sporting activities, especially with respect to the Nigerian situation. This study aims to fill this gap by centering on undergraduates students in selected tertiary institutions in Benin City, Edo State, Nigeria.

This study will explore their knowledge, attitudes and perceptions towards sporting activities, identifying any prevailing misconceptions or cultural barriers that might affect their willingness to participate. This research will provide considerable insights into how undergraduate students engage in physical activity, and it will identify barriers and facilitators that influence their participation in sports. Findings from this study can guide the creation of tailored policies, interventions and support systems to improve the overall health and well-being of undergraduate students.

Recent data show a positive correlation between student participation in sports and their physical and mental health. [52] Regular exercise could boost cognitive function, concentration,

and academic performance in undergraduate students, thus, investigating how sports involvement relates to their academic success could highlight the advantages of incorporating physical activity into their daily lives.

This study will contribute to the scholarly works and academic understanding of sports participation in higher education settings, and inform policy and program development with regards to sports. Findings from this research will benefit the undergraduate population in Benin City, and also affect student health initiatives across Nigeria and internationally

### 1.4 Research questions

The study addressed the following research questions.

1 What is the knowledge of sporting activities among undergraduates of selected tertiary institutions in Benin City, Edo State?

2 What is the attitude towards sporting activities among undergraduates of selected tertiary institutions in Benin City, Edo State?

3 What is the prevalence and level of participation in sporting activities among undergraduates of selected tertiary institutions in Benin City, Edo State?

4 What are the determinant of participation in sporting activities among undergraduates of selected tertiary institutions in Benin City, Edo State?

5 What is the influence of sporting activities on academic performance?

## 1.5 Aim and Objectives

### 1.5.1 General Objective

To assess the role of sporting activities among undergraduate students in selected tertiary institutions in Benin City, Edo State, Nigeria for the purpose of contributing to scholarly works and informing policy and programme development regarding sports.

### 1.5.2 Specific Objectives

1 To assess the knowledge of sporting activities among undergraduate students in selected tertiary institutions in Benin City, Edo State

2 To ascertain undergraduate students' attitude towards sporting activities in selected tertiary institutions in Benin City, Edo State

3 To determine the prevalence and level of participation in sporting activities among undergraduate students in selected tertiary institutions in Benin City, Edo State

4 To identify the determinants of participation in sporting activities among undergraduate students in selected tertiary institutions in Benin City, Edo State

5 To determine the influence of sporting activities on academic performance

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Background/Introduction

The importance of sports in today's world cannot be overemphasized, as it is one of the many ways to be physically active and improve health. Sports and physical activity have multifaceted impacts on individuals and society, including physiological, psychosocial, and personal development. It is a mood lifter, improves focus and concentration, and provides protection against cardiovascular diseases, cancer, diabetes and other non-communicable diseases.

Currently literature has established that regular participation in sports offers significant health advantages, entailing lowering the risk of chronic conditions like obesity, diabetes, and heart problems. Furthermore, it positively impacts mental well-being by alleviating anxiety and depression, elevating mood, and increasing overall happiness. To comprehensively assess these dimensions, this chapter will explore the conceptual and theoretical framework for assessing the benefits of sporting activities among undergraduate students in selected tertiary institutions in Nigeria. The conceptual framework for this study is grounded in the following key concepts: Physical, psychological, and social benefits. The theoretical frameworks include Self-Determination Theory, Social Learning Theory, Achievement Goal Theory and Psychological Needs Theory. [8, 53,54]

Guided by the research questions, this review critically examines the existing literature to contextualize the current study:

Previous studies has identified various factors as influencing participation in sporting activities and its associated benefits on health. These include knowledge of sporting activities and its benefits, attitudes towards sporting activities, practice of sporting activities and determinants of

participation in sporting activities among undergraduate students. Understanding these factors within the specific sociocultural environment of Nigerian undergraduates is essential for designing effective intervention strategies.

Correspondingly, the literature review is structured into five major sections in line with the research objectives. The first section examines studies addressing the knowledge of sporting activities and its benefits among undergraduate students. The second section explores attitudes towards sporting activities among undergraduate students. The third section reviews existing data on the practice of sporting activities among undergraduate students. The fourth section analyzes research investigating determinants of participation in sporting activities among undergraduate students. The fifth section compares undergraduate students that participate in sporting activities and those that do not participate. This review conducts a thorough analysis to provide a solid theoretical and empirical basis for the current study, while also identifying key gaps that require additional research.

The tools that will be employed in this research is the International Physical Activity Questionnaire (IPAQ), Exercise Benefits and Barriers Scale (EBBS) and the Academic Achievement Questionnaire (AAQ). IPAQ has merits such as it being comprehensive as it captures activity across multiple domains: transport, domestic chores, and leisure, it has also been tested and validated in multiple countries and cultures, with translations in many languages. It is also easy to administer via paper, phone, or online surveys and requires no equipment, making it budget-friendly for large-scale studies. Furthermore, it records vigorous, moderate, and walking activities, providing a fuller picture of activity levels. On the other hand, it's demerits include that it relies on participants' memory and honesty, leading to recall errors or social desirability bias. It is also less accurate in Low-Literacy Populations and misunderstanding of

terms or activity intensities can affect reliability in populations with lower education. Also concepts like “moderate” or “vigorous” activity may be interpreted differently across cultures.

The Exercise Benefits and Barriers Scale was also utilized in this study and has several advantages such as it serving as a comprehensive tool as both positive motivations (benefits) and obstacles (barriers) to exercise in one tool. It also provides quantifiable Data by providing scores that can be statistically analyzed for research and evaluation. It also has some demerits which includes subjectivity and self-report bias as the EBBS relies on self-reported data, which can be influenced by social desirability bias or inaccurate self-perception. The full EBBS consists of 43 items (29 benefits and 14 barriers), which can be time-consuming for participants and potentially reduce response quality due to fatigue.

The academic performance of the undergraduate students from the selected tertiary institutions was assessed using the Academic Achievement Questionnaire (AAQ). It comprised 13 items covering various aspects: average, best and worst marks in last semester and throughout the study, maximum number of attempts to pass a single exam among others. Merits of this scale include that it is easy to administer to large groups of students without requiring significant resources. Also, it allows for benchmarking across different populations and institutions thus enabling quantitative analysis for academic research and program evaluation. It is can also be adapted to various academic disciplines or educational levels. However, its responses may be influenced by social desirability or students not accurately reflecting their own abilities and behaviors.

### 2.2 Conceptual And Theoretical Framework

This study explores the conceptual and theoretical framework for assessing the benefits of sporting activities among undergraduate students in selected tertiary institutions in Nigeria. Sporting activities have multifaceted benefits, encompassing physical, psychological, and social advantages.

**Conceptual Framework for The Role of Sporting Activities Among Undergraduate Students**

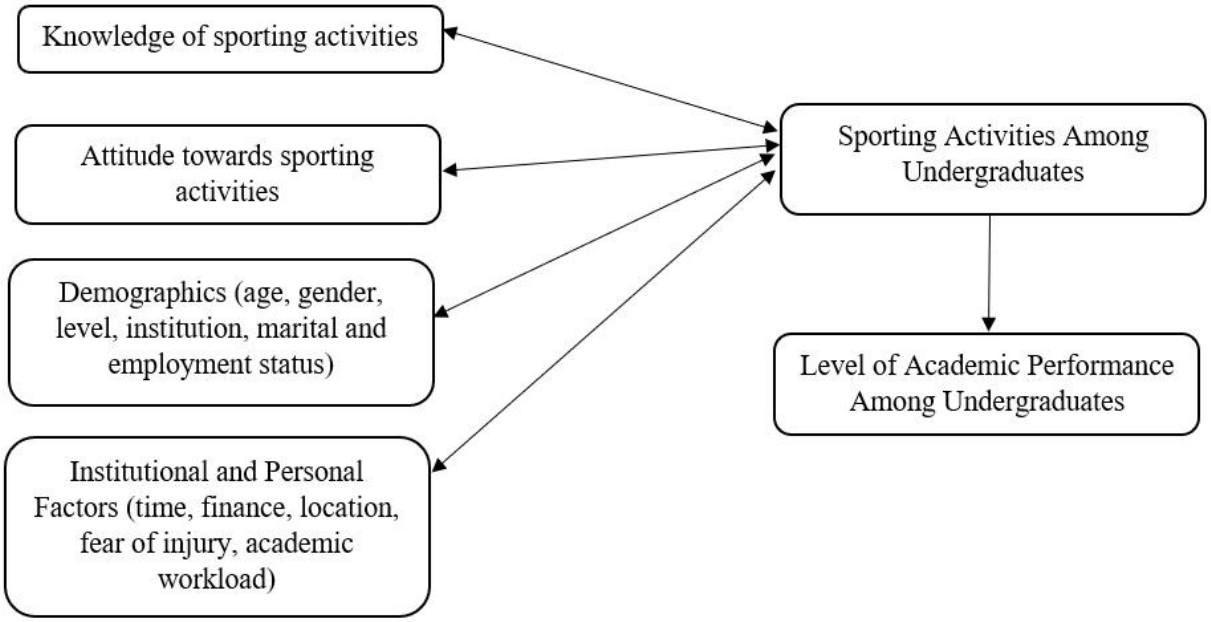


**Figure 1: Conceptual Framework for the Assessment of the role of sporting activities among undergraduates in Benin City, Edo State, Nigeria, 2025.**

The conceptual framework for this study is grounded in the following key concepts: Physical, psychological, and social benefits. With regards to physical benefits, regular participation in sporting activities is a powerful catalyst for enhancing the physical health and overall well-being of young individuals. Specifically, this regular activity significantly contributes to improve

cardiovascular health. Sports and games provide the necessary exercise to strengthen the heart, improve circulation, and maintain healthy blood pressure levels. This is vital in combating the increasing prevalence of cardiovascular diseases. Moreover, participation in sports plays a key role in efforts to reduce the risk of chronic diseases. [8] The sedentary lifestyle prevalent in modern society increases the risk of various health issues, including cardiovascular diseases, diabetes, and obesity. Engaging in sports helps to counteract these risks. In addition to these specific benefits, sports participation leads to enhance overall physical well-being. It aids in the development of physical fitness, contributes to organic well-being, and promotes a healthier lifestyle. In terms of psychological benefits, sports participation is instrumental in promoting positive mental health and development among youth. [8,53] Firstly, sports participation can boost self-esteem. The sense of accomplishment derived from achieving goals, improving skills, and overcoming challenges in sports contributes to a stronger sense of self-worth and confidence. Secondly, engaging in sports helps to reduce stress and anxiety. Physical activity is a natural stress reliever, aiding in the release of tension and promoting relaxation. Furthermore, sports participation can improve mood. The enjoyment and sense of accomplishment derived from sports contribute to a more positive emotional state. According to Adetunji and Akindutire (2017), students who participate in sports and games are highly motivated to learn. The discipline, focus, and goal-oriented mindset developed through sports can positively influence academic pursuits. In addition to the physical and psychological advantages, sporting activities are crucial for the development of social skills and fostering positive social interactions. Sporting activities provide valuable opportunities for socialization. [8,53] Participation in sports brings individuals together, facilitating the formation of friendships and social bonds. Moreover, sports, especially team sports, are excellent for teamwork. Athletes learn to collaborate, cooperate, and

work together towards a common goal, developing essential teamwork skills. Furthermore, sports participation aids in communication skills development. Effective communication is essential in sports, whether it's communicating with teammates, coaches, or even opponents. In general, the benefits of sports participation among undergraduates are wide-ranging and encompass physical, psychological, and social dimensions. [8,53]

This study employs a comprehensive approach, drawing on several theoretical frameworks including Self-Determination Theory, Social Learning Theory, Achievement Goal Theory and Psychological Needs Theory:

Self-Determination Theory: This theory posits that individuals are more likely to engage in activities they find enjoyable and meaningful. It suggests that students who enjoy sports are more likely to participate and benefit from the positive outcomes associated with sports participation, such as improved academic performance. [54]

Social Learning Theory: This theory suggests that individuals learn from their environment through observation and modeling of behavior. In the context of sports participation, it suggests that students can learn important life skills, such as discipline, teamwork, and leadership, through participation in sports, which can then be applied to academic settings and improve academic performance. [54]

Achievement Goal Theory: This theory explores individuals' goal orientations and how they relate to their motivation and performance. It suggests that students may adopt different goal orientations in sports and academics, such as mastery goals (seeking to improve skills) or performance goals (striving for favorable outcomes), and that the alignment or mismatch

between goal orientations in sports and academics can influence students' motivation and academic performance. [54]

Sporting activities can be categorized into mental and non-metal/physical sports. Mental sports are sports or games where mental processes—such as memory, strategic planning, decision-making, and concentration—are more critical to performance than physical effort. It involves minimal physical movement and high reliance on cognitive faculties. Mental sports are often referred to as ‘mind sports’. It includes Scrabble, Chess, Esports, Go and Bridge Card Game.

On the other hand, non-metal sports are sports that involve high levels of physical effort, coordination, endurance, and strength. Cognitive elements (like tactical thinking or reaction) are present and may support performance but are secondary and not dominant. They include track and field events, football, weightlifting, basketball, swimming and boxing. [109, 110, 111]

Physical /Non-mental sporting activities are further classified as vigorous and moderate based on the energy expenditure required, heart rate and perceived exertion. Vigorous intensity sports are those that require substantial effort, leading to rapid breathing and a significant increase in heart rate. It involves sports like running, swimming, singles tennis, martial arts, basketball, cycling at speeds > 10mph and football.[112, 113] Moderate intensity sports are those that cause a noticeable increase in heart rate and breathing but still allows for conversation. They include doubles tennis, brisk walking and recreational cycling at speeds < 10mph, volleyball, baseball, table tennis. [114, 115, 116] Low intensity physical sports are those sports that involve minimal effort and do not cause a significant increase in heart rate or breathing. It involves sports like casual walking, leisurely table tennis and golf. [117, 118, 119]

## 2.3 Knowledge of Sporting Activities Amongst Undergraduate Students

A scross-sectional study conducted among 479 university students from different provinces of Turkey to determine the level of sports awareness and reasons for university students doing or not doing sports, and to investigate the relationship between these two parameters. The level of sports awareness was evaluated with the Sports Awareness Scale whilst the sporting habits of the students were evaluated using the Reasons for Doing and Not Doing Sports Questionnaire, data was collected online using a questionnaire created on Google Forms.[55] The mean total score of the Sports Awareness Scale was 107.08±20.70, indicating moderate awareness. A statistically significant, weak positive correlation was determined between the subparameters of the Reasons for Doing Sport and all the subparameters of the Sports Awareness Scale, and with the exception of Insufficient Time, a statistically significant, weak negative correlation was determined between the subparameters of the Reasons for Not Doing Sport and the Sports Awareness Scale ($p<0.05$).[55]

A cross-sectional study conducted between 2023 and 2024 among 198 participants in Macedonia to analyze the Macedonian population's awareness of the benefits of regular physical activities and sports. More than half of the study population were males 107 (54%) while 72 (46%) were female.[56] Additionally, according to their affiliation to sports and physical activity, 8.08% were professional sportsmen, 63.64% were recreational sportsmen, 12.12% were sports workers, and

16.16% did not have any affiliation with sports. Findings revealed that respondents had the highest level of agreement with the statements that sports and physical activities contribute to improvement in their physical and mental health (with weighted average of 4.86 and 4.78 respectively), i.e., physical and emotional human capital. Furthermore, with a weighted average of agreement of 4.62, respondents agree that sports and physical activity contribute to the improvement of their interpersonal, leadership, life skills and resilience, i.e., individual capital. With a weighted average of below 4.5, respondents assigned the statements related to financial, intellectual, and social capital (4.49, 4.47 and 4.37, respectively). In general, the total average level of agreement for the provided statements related to benefits from sports and physical activity is above 4.6. [56] However, a sample size of 198, while providing initial insights, might be considered relatively small to generalize findings to the entire Macedonian population.

A cross-sectional study was conducted in 2019 among 255 undergraduate students from four universities in Portugal to examine knowledge and explore perceptions of Physical Activity (PA) recommendations for adults among Portuguese university students. [57] Findings revealed that the majority of students (51.0%) were unaware of PA recommendations. Of those supposedly aware of the PA recommendations, only 9.8% correctly guessed them, 42% overestimated their PA, 10.7% underestimated their PA, and 37.5% were unaware of them for other reasons. In general, these students failed to identify the minutes per week and intensity of the PA recommendations. [57]

A cross-sectional study was conducted in 2022 among 465 university undergraduate students in the University of Zimbabwe (UZ) in Harare, Zimbabwe to evaluate the barriers and facilitators to PA engagement in Zimbabwean undergraduate students and to determine correlates of perceived barriers and benefits to physical activity engagement, mental health disorders and perceived

HRQOL. [58] The Exercise Benefits and Barriers Scale, International Physical Activity Questionnaire (IPAQ), Shona Symptoms Questionnaire (SSQ-8) and EuroQol 5 Dimension (EQ5D-51) were utilized to measure barriers and facilitators, physical activity level, risk of depression and anxiety and HRQOL, respectively. [58] Data were analyzed through descriptive statistics and logistic regression. Most participants were male (58.5%) with a mean age of 21.7 (SD 1.6) years. The study revealed that university students were strongly knowledgeable of the benefits of exercising with physical performance, life enhancement and psychological impacts cited as major benefits. The most perceived benefits were in the physical performance and life enhancement domains, while the most perceived barriers were lack of exercise infrastructure and physical exertion. [58]

A descriptive cross-sectional study conducted in 2023 among 177 undergraduate students at a university in the Western Cape, South Africa to determine the relationship between the knowledge, perceptions, attitudes, and behaviors of undergraduate university students regarding physical activity.[59] A total of 29 (16.38%) of the students had a poor knowledge of PA, while 119 (67.23%) and 29 (16.38%) had a fair knowledge and a good knowledge of PA, respectively.[59]

A descriptive cross-sectional study conducted in 2015 among 405 postgraduate students in the University of Ibadan, Ibadan, Nigeria to assess the knowledge, attitude and practice of physical exercise. A validated semi-structured questionnaire which contained a 54-point knowledge scale, a 22-point attitudinal scale, and questions relating to factors influencing the practice of physical exercise and the practice of physical exercise among students was used for data collection. The respondents' mean age was 31 ± 4.4 years; 57.5% of the respondents were male, the majority (85.4%) were Christians, and 81% were single. The mean knowledge score was 38.9 ± 6.7;

respondents with poor, fair, and good knowledge of physical exercise were 0.2%, 28.4%, and 71.4%, respectively.[60]

A descriptive survey study conducted in 2014 among 320 undergraduate students in the University of Nigeria, Nsukka to investigate the knowledge, attitude and practice towards physical activities among undergraduate students with and without disabilities. A multi-stage sampling technique was utilized to select the sample while a questionnaire administered to students was used for data collection.[61] Findings from the study showed that 66.34% of the respondents indicated high knowledge on what physical activities is, while 33.66% of the respondents lack knowledge on what physical activities are all about.[61]

A descriptive cross-sectional study was conducted in Nsukka Education Zones, Enugu State in among 412 undergraduate students to determine the knowledge of the health benefits of engaging in physical activities. [62] The instrument for data collection was structured by the researcher based on the literature on physical health benefits, psychological benefits and social benefits. Majority 75.5% of the students possessed high knowledge of physical, psychological and social health benefits of engaging in physical activities. [62] However, majority 66.3% of the respondents lacked knowledge of the WHO recommended physical activity guideline for health enhancement and well being.[62]

**2.4 Attitudes Towards Sporting Activities Among Undergraduate Students**

A cross-sectional study conducted in India in 2024 amongst 100 college students to ascertain the attitudes towards physical activity and participation of college students in competitive physical activity.[63] The study revealed that a significant proportion of higher education students hold positive viewpoints regarding athletic competition. A substantial 60% of respondents expressed

the belief that engagement in competitive physical activity plays a pivotal role in maintaining physical fitness. Furthermore, a noteworthy 75 percent of those surveyed acknowledged the advantages of participating in competitive sports for their personal growth and development. [63] Additionally, 55% of participants concurred that competitive physical activity yields social benefits, underscoring the importance of interpersonal connections and team dynamics within sports. Moreover, an impressive 85 percent of respondents reported deriving enjoyment from taking part in competitive physical exercises. Preliminary statistics indicate that these students regard such physical activities as crucial for maintaining physical well-being, fostering personal growth, and enabling social interactions.[63]

A mixed method study conducted between 2017 and 2018 among 481 (241 female, 240 male) undergraduate students at Gazi University in Ankara, Turkey to examine the attitudes and perceptions of students towards sports. Data was collected using the "Demographic Information Form," "The Sports-Oriented Attitude Scale," and a semi-structured form. The results of the study showed that university students' attitudes towards sports were moderate, and their metaphors for sports were mostly positive. [64]

A cross-sectional study was conducted in 2021 among 2,154 students in District Bannu in Pakistan to evaluate the students' attitude towards physical activity. The study used a modified version of the Kenyon Attitude Toward Physical Activity (Kenyon ATPA) questionnaire to gather data, and the data was analyzed using SPSS version 26.[65] The overall mean score of 3.29 and 3.12 respectively for males and females' asserts that the participants possess neutral attitude towards physical activity as a social experience. An overall mean score 3.54 and 3.46 respectively for males and females substantiates that participants perceived a positive attitude towards physical activity.[65]

A cross-sectional study was conducted in the University of Zululand, KwaDlangezwa, South Africa in 2017 among 1004 students who did not participate in sport and 292 students who participated to characterize the attitudes towards participation in sporting activities of isiZulu-speaking female students. A self-administered questionnaire was utilized. The respondents gave a low ranking to health-related benefits of sport. Those who participated in sport did so for the prospect of money and fame; they also gave a low ranking to the health-related benefits of physical activity. [66]

In 2020, a study was conducted to assess the perceptions of physical activity among students in a University in the Western Cape, South Africa and to explore factors that lead to participation and non-participation in sporting activities among university students, as well as their preferred activities. The study used a qualitative ethnographic design to collect data by means of semi-structured one-on-one interviews until data saturation was reached. The findings revealed that they had a good perception towards sporting activities.

A cross-sectional study was conducted in 2013 among 180 undergraduate students from Ekiti State University, Ado Ekiti, Nigeria to examine the attitude of university undergraduate students towards physical activity and fitness exercise. Over fifty percent of the respondents were males 98 (75.38%) while 82 (24.62%) respondents were females. Attitude Towards Physical Activity (ATPA) scale and the Exercise Benefit-Barrier Scale (EBBS) were utilized. Findings revealed that undergraduates who benefitted from fitness exercise had a more positive attitude towards physical activity than those who did not benefit. It also showed that adolescent-aged students showed a similar attitude towards physical activity as adult-aged students. [68]

A cross-sectional study was done in 2022 among 320 undergraduate students of University of Nigeria, Nsukka to assess the knowledge, attitude and practice of physical sports activities

among undergraduate students.[69] The instrument used for data collection was the close-ended questionnaire. The finding revealed that the undergraduates had positive attitude towards physical activities participation. Most of the undergraduates believed that an individual who engages in physical activities will live longer. [69]

## 2.5 Prevalence and level of Participation In Sporting Activities Among Undergraduate Students

A longitudinal study conducted between 2014 and 2015 academic year among 301 first-year students at Brock University in Ontario, Canada, to examine the changes in the total amount, frequency, and type of PA and sport participation among Canadian first-year male and female university students and to examine the factors that promote or dissuade PA and sport engagement among these students. Questionnaires utilized included the Block Physical Activity Questionnaire (BPAQ), the Physical Activity Questionnaire for Adolescents (PAQ-A) and the Determinants of Physical Activity Behaviors Questionnaire (DPABQ). The results showed a decrease in PA over the year. Males engaged in more vigorous activity minutes, more strength training, and more organized sports than females ($P<.05$). [70] Females participated in more fitness activities than males ($P<.05$). Intramural (noncompetitive and school organized) sport participation remained constant throughout the year.

A mixed methods study was conducted in 2020 among 729 students from 20 different UK universities to understand the habits and behaviours of university students in sport and physical activity whilst gaining an understanding of barriers to student participation. It included an online survey and qualitative research at one university which included 27 semi-structured interviews

with students, four semi-structured interviews with university staff, and a focus group with student sports volunteers. [71] Findings indicate that both they were relatively active groups when compared with the national average overall and a subset of those aged 16-24 nationally. With adult inactivity defined by Sport England as people that participate in moderate intensity activity for less than 30 minutes per week, only 3% of the higher SEG were defined as inactive although there was a slightly higher percentage (6%) of low SEG participants. Generally the undergraduate students would be defined as being at least 'fairly active'. [71]

A cross-sectional study was conducted between 2016 and 2019 among 4586 students in a large public-funded central university located in northern India to describe the physical activity levels of the students and to capture the student perceptions about the emphasis they receive on leading a physically active lifestyle during their routine curricular activities. [72] The study used the International Physical Activity Questionnaire—Long Form to record physical activity among 4586 students. Out of 30,667 students, about 15% were included from each faculty. Among the respondents, 2828 (61.7%) were male and 1758 (38.3%) were female students. The mean age of the sample was 22.34 (SD 3.12) years. The study reported a better physical activity pattern in comparison to the reported overall physical activity levels of the adult population of India as it showed that 666 (14.5%) of all students fall under the “Inactive” category.

A quantitative cross-sectional study conducted in 2022 among 534 undergraduate students in the Western Cape province of South Africa to determine the relationship between psychosocial factors and physical activity participation. Physical activity was assessed using the International Physical Activity Questionnaire Short Form (IPAQ-SF). Statistical analysis was performed using SPSS version 28.0. [73] The study showed the varying PA levels of undergraduate university students. In terms of vigorous-intensity PA, students engaged on average 1.87 days per week,

with an average daily duration of 45.89 min, totaling 1275.13 MET minutes per week. Moderate-intensity PA occurred on average 1.68 days per week, with a duration of 35.01 min and a weekly volume of 446.20 MET minutes. Walking activity was observed to occur approximately 4.95 days per week, with an average daily duration of 56.05 min and a total volume of 1077.32 MET minutes per week. Sedentary behavior was notable, with students spending an average of 247.72 min per day sitting. The study also revealed that almost a third (29%) of the students were physically inactive. Physical activity was positively related to stress ($r = 0.11$, $p < 0.05$) and anxiety ($r = 0.10$, $p < 0.05$). Motivational factors were positively related to psychological condition and others' expectations ($r = 0.10$, $p < 0.05$) and depression and others' expectations ($r = 0.11$, $p < 0.05$). [73]

A descriptive cross-sectional study conducted in 2019 among 398 undergraduates from five halls of residence in the University of Ghana to determine the prevalence and patterns of physical activity among resident undergraduates. The long version of the International Physical Activity Questionnaire (IPAQ-LF) was used to collect data on the physical activity behavior of resident students. [74] Most participants were male (281; 70.6%) while females constituted 117 (29.4%). Findings demonstrated that walking for at least 10 minutes was prevalent (92.7%) among resident undergraduates. More than one half of males spent 500 minutes in a week walking whiles more than one half of females spent 210 minutes walking across all domains. [74] Transportation domain contributed highest (41.35%) to the PA levels of undergraduates. Analysis of PA data showed that 39.9% were highly active, 43.0% were moderately active and 17% were inactive. Overall, the prevalence of physical activity was 82.9% in reference to WHO global PA recommendations. By sex, prevalence of inactivity was significantly ($p<0.01$) higher among females (24.8%) compared to males (13.9%).[74]

A cross-sectional study was conducted in 2016 among 308 students the University of the Free State, Bloemfontein, South Africa to assess and quantify participation in sporting activities by students and to determine the factors influencing students' intentions to participate or not to participate in sports. [75] Respondents comprised of 188 (61%) females and 120 (39%) males living.[75] The study revealed that only 179 (58.36%) respondents continued to participate in sporting activities whilst they were studying at the university.[75]

A cross-sectional study conducted in 2016 among a representative sample of undergraduate students of the University of Lagos, Nigeria to determine the prevalence and types of sport participation and injuries among university students in Nigeria and examine factors associated with sport participation among students. [76] A self-administered questionnaire was utilized to collect information on the frequency and types of sport participation and sport-related injuries. A sport participation prevalence of 64.2% was recorded among students indicating sports participation among students was fair. Football (soccer) (53.2%) had the highest participation rate. Male students (78.4% vs. 41.2%) participated more frequently in sports ($p < 0.001$). The overall injury rate was 52.5 injuries/100 students/year (95%CI: 46.5 - 58.5) with the prevalence of injury being 7% in male and 12.7% in female students.[76]

A cross-sectional study conducted in 2014 among 1399 students of the Obafemi Awolowo University, Ile-Ife, Nigeria, to assess psychosocial correlates of physical activity (PA) among Nigerian university students. The International Physical Activity Questionnaire (IPAQ) was used to assess PA at 7-day recall (MET-min/week) while psychosocial variables of Exercise Self-Efficacy (ESE), Perceived Barriers to PA (PBPA) and parental Socio-economic Status (SES) were assessed using ESE, PBPA and SES questionnaires respectively.[77] Alpha level was at $p < 0.05$. Findings showed that a majority of the respondents, 1250 (89.4%) reported sufficient PA.

## 2.6. Determinants of participation in sporting activities among undergraduate students

A cross-sectional study conducted in 2020 among 661 university students at the University of New Hampshire, Durham, United States aimed to examine the complex relationship of psychological well-being, leisure constraints, and leisure negotiation factors in predicting leisure-time physical activity rates.[78] Findings revealed that leisure-time physical activity was positively predicted by planning and prioritization skills and autonomy while negatively predicted by constraints to recreation facility spaces, lack of time, utilizing financial strategies, and personal growth. It also revealed that, in regards to top-down well-being, influences on LTPA, LTPA rates were negatively predicted by personal growth and positively predicted by autonomy. [78]

A mixed methods study was conducted in 2020 among 729 students from 20 different UK universities to understand the habits and behaviours of university students in sport and physical activity whilst gaining an understanding of barriers to student participation. The study showed that the main factors influencing participation were time (due to academic commitments and part time working, as well as social life taking precedence), financial costs of participation, and human capital (or 'sporting capital', in terms of prior knowledge of and participation in sport and physical activity before university, with participation prior to university being an important factor for both SEGs). It also showed that students from low socio-economic groups (SEGs) were less active than those from higher SEGs. Key barriers preventing both groups from participating in sport and physical activity included time (mainly due to academic commitments), cost and a lack of confidence, alongside some university-specific factors. [71]

A descriptive cross-sectional study done in Thailand in 2023 to assess the multilevel factors associated with sports and physical activity participation among Thai university students aged 18

years or older with data retrieved from a cross-sectional online survey. Results showed that gender, academic year of study, BMI status, number of sports engaged in per week, sedentary time, fruit and vegetable consumption, commute type to/from university and availability of membership-only recreational facility within the university remained strongly associated with Thai university student sufficient PA.When controlling for other factors, females had 13 % lower odds (OR = 0.87, $p < 0.001$) of having sufficient PA, compared with their male counterparts. [79] The study also found that Thai university students who were in their second academic year were significantly more physically active than freshmen. Students who were underweight and overweight had 19 % (OR = 0.81, $p = 0.039$) and 26 % (OR = 0.74, $p = 0.040$), respectively, lower odds of having sufficient PA, compared with those who had a normal weight. Students engaging in 6 sports or less had greater probability of having sufficient PA, compared with those who played > 6 sports. Students who engaged in too many types of sports might spend a short duration playing each sport which overall might not contribute to achieving the PA guidelines. Students who engaged in >8 h of sedentary behavior had 70 % higher odds (OR = 1.70, $p < 0.001$) of having sufficient PA, compared to those who engaged in <4 h of sedentary behavior. Students who consumed adequate amounts of fruit and vegetables had 59 % higher odds (OR = 1.59, $p < 0.001$) of having sufficient PA, compared to their peers who consumed inadequate amounts of fruit and vegetables. Students from a university that provided private or membership-only recreational facilities within the university had 40 % greater odds of having sufficient PA, compared to those from a university with no such facilities. [79]

A mixed methods cross-sectional study was conducted in 2025 among 328 undergraduate students in South Africa to identify the primary motivations and barriers to physical activity participation among students and provide insights for tailored interventions. The quantitative

phase involved distributing 414 questionnaires across four faculties, with 328 completed responses analyzed using t-tests and factor analysis. The qualitative phase involved semi-structured interviews with 23 students, analyzed through conventional content analysis. [80] The quantitative findings revealed key motivators for physical activity, which included enjoyment, social interaction and health benefits. However, a significant barrier was heavy academic workload. Qualitative data uncovered additional barriers such as insufficient facilities and poor communication. [80]

A descriptive study conducted in 2017 among 199 undergraduate students in South Africa to ascertain the factors that affect local and international student's participation in sport and recreation.[81] The number of males 135 (68%) was greater than the number of female 65(32%) respondents in the investigation. The study revealed eight factors as the key justifications for engagement in sport and recreational activities which include achievement/status, energy release, fun, skills/development, friendship, competition/competence, fitness, situational or health reasons with achievement/status, energy release and fun recognised as the three most significant factors. The study also showed that the respondents ranked structural constraints as the cause of their non-participation in campus-based sport and recreation activities.[81]

A descriptive cross-sectional study was done in to assess the personal attributes as determinants of sports participation among 2,610 undergraduates in selected Nigerian universities including University of Benin, University of Ibadan, Obafemi Awolowo University, Ahmadu Bello University and University of Nigeria, Nsukka. The instrument of the study was a validated questionnaire based on Likert scaling design with the use of simple random sampling technique. [82] The findings clearly show that age is an important variable which determines the participatory pattern of students in sport because advancement in age decreases one's ability to endure

environmental stress, working capacity, physical fitness, strength, endurance and oxygen up-take. Gender significantly determines sports participation among undergraduates in selected Nigerian universities with male students more participatory than the females. Marital status significantly dictated the zest of the students participating in sports. Most of the students who were involved in school sports, particularly competitive sport, were predominantly unmarried. This study spanned across five Nigerian universities which makes it fairly representative and the results dependable. [82]

A cross-sectional study was conducted in 2022 among 392 undergraduate students of the University of Nigeria, Nsukka, in Enugu State, Nigeria to investigate socio-demographic factors associated with participation in recreational activities. A self-structured questionnaire called the Factors Associated with Participation in Recreational Activities Questionnaire (FAPRAQ) was used for data collection. The study showed that economic-related factors had a strong relationship with participation in recreational activities, based on age and year of study while gender and faculty of respondents had a moderate relationship with participation.[83]

An institutional based descriptive cross-sectional study was conducted among 481 students drawn from Alex Ekwueme Federal University, Ikwo, and Ebonyi State University, Abakaliki, Ebonyi State to assess the psychological determinants of sports participation among athletes of tertiary institutions in Ebonyi State, Nigeria. [84] The findings revealed that fear of injury and anxiety were determinants of sports participation in tertiary institutions in Ebonyi State.[84]

**2.7 Influence of sporting activities on academic performance among undergraduates**

A cross-sectional study conducted between 2022 and 2023 among 1384 undergraduate students in King Faisal University in the Kingdom of Saudi Arabia to determine how recreational sports

affected the students' quality of life. The scale included 57 items in the final form of the scale, and a three-point scale (3-2-1) was used. The study showed that out of the total sample, 784 (56.6%) students were engaged in leisure activities, while 600 (43.4%) students did not participate in recreational activities.[6] Findings show higher average values for the sample of students who participatein recreational sports activities compared to students who do not participate in terms of measures of quality of family life(24.68 to 23.74), social life(25.86 to 24.22), emotional and psychological well-being(2.28 to 2.14), education and study(18.65 to 17.10), and investment of free time and good managemen(18.29 to 16.91) [($p < 0.001$)]. There was also a highly significant difference in the overall measure of total quality of life compared to non-practitioners ($p < 0.001$).[6]

A cross-sectional study conducted in 2022 among 401 undergraduate students from six Chinese universities to investigate the current situation and influencing factors of digital informal learning of sports knowledge (DIL-S). Data were collected using the DIL-S measurement questionnaire.[85] Findings revealed that Sports university students' cognitive learning, metacognitive learning, and social and motivation learning (SML) were significantly better than that of non-sports university students.[85]

A quantitative study conducted in 2020 among 203 student-athletes in four universities in the Gauteng province of South Africa to investigate the perceptions of South African student-athletes about the benefits and challenges of participating in varsity sports. A questionnaire which sought information on benefits (13 items) and challenges (10 items) of participation in Varsity tournaments was utilized.[86] Out of the total number of students, 138 (67.98%) were males while 65 (32.02%) were females. The study showed that student-athletes' perceived benefits of varsity sports participation included enjoyment, making their families proud, making

friendships, completing studies on record time, receiving performance-related incentives and awards, being seen on television, and being scouted by professional teams.[86]

A cross-sectional study was conducted in 2015 among 60 students at the University of Limpopo, to determine the influence of exercise on psychological well-being and reported rates of depression. [87] The study revealed that students who exercised regularly demonstrated more positive psychological well-being 50 (83.3%) compared to non-regular exercisers 10 (16.7%), who exhibited more negative psychological well-being. [87]

A quantitative study conducted in 2011 among undergraduate students at Vaal University of Technology, South Africa to identify the perceived benefits and barriers to participation in physical exercise. An adapted version of the Exercise Benefits Barriers Scale (EBBS) was administered.[88] Students perceived improved health, physical performance, psychological outlook, and life enhancement as the strongest benefits of exercise.[88]

A comparative descriptive study conducted in 2024 among 359 undergraduates of the University of Benin, Edo State, Nigeria to determine the effect of sport participation on selected cardiovascular health indices among a cohort of undergraduate students. A consecutive sampling technique was utilized to recruit participants. Data was obtained using the International Physical Activity Questionnaire (IPAQ). Participants were classified as non-participants, minimally active and very active sport participants. Cardiovascular parameters were measured using appropriate instruments. [89] The age of respondents ranged from 18 to 25 years, with a mean of 21.88 years (±1.95). Of the total 359 respondents, 241 (67.1%) of the respondents were male and 238 (66.3%) of the respondents were involved in sports. The result revealed a significant difference in the systolic BP ($F = 44.961$, $\rho < 0.001$), diastolic BP ($F = 12.150$, $\rho < 0.001$), heart rate ($F = 140.891$, $\rho < 0.001$) and respiratory rate ($F = 175.311$, $\rho < 0.001$) among the three groups of

nonparticipants, minimally active and very active sport participants.[89] It showed that active sports participants exhibited lower blood pressure and heart rate indicating a potential positive influence of sport participations on the cardiovascular health of participants.[89]

A descriptive cross-sectional study was done to find out the perceived health benefits of sports participation among 231 undergraduates in Afe Babalola University, Ado-Ekiti, Ekiti State, Nigeria. Self-structured modified questionnaire was used to elicit information from the respondents.[90] The result of the findings showed that the university undergraduates who participated in sports activities significantly experienced health benefits of sports participation. The benefits of recreational participation recorded included momentary relief, enhancement their physical, mental, or emotional capacity, which non-participants may lack. This study has similar demographic characteristics as the ongoing study, however the sample size is limited which makes the result less powerful. [90]

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 STUDY AREA

This research was conducted in selected tertiary institutions in Benin City, Edo State. Benin City serves as the capital of Edo State. Edo State was created out of the former Bendel State on 27th August, 1991 and broadly covers the former colonial Benin Province, save the old Asaba Division. The state is located in the South-South geopolitical zone of Nigeria and is one of the states in the Niger Delta region. It is bordered by Kogi State to the North, Delta State to the East and South, and Ondo State to the West. Lying between latitude 5.440 and 7.340 North and longitude 5.40 and 6.450 East, the State has a land mass of 19,187 square km or (7,494.92 square miles). The State has an estimated population of 3,602,124 and eighteen (18) local government areas which includes Oredo, Ovia North-East, Akoko-Edo, Esan Central and Egor Local Government Area among others. In addition to the well-known forestry and wood products of the state, it has a high yield of food and cash crops, among the most valuable cash crops are cocoa and

rubber. [91,92] The basis of the economy is farming with the main food crops being yams, plantain and cocoyams. The urban economy is dominated by government in the formal sector and by trade in the informal one. [97]

The state has a total of sixteen(16) tertiary institutions consisting of seven(7) Universities, five(5) Polytechnics, three(3) Colleges of education and one(1) College of Health Technology. [93]

The state's capital Benin City spans between latitudes 60 12' 38.36" N and 60 27' 25.00" N, and longitudes 50 29' 46.03" E and 50 45' 00.41" E. The city is composed of five Local Government Areas (LGAs): Egor, Ikpoba-Okha, Oredo, Ovia North East, and Uhunmwonde. [IV] It had a population of 1,085,676 based on the 2006 population census with a population projection of 2,044,650 in 2025. [95,96]

Among its higher education offers, Benin City counts the University of Benin, Benson Idahosa University, Wellspring University and Federal College of Education, Ekiadolor. [93]

The University of Benin (UNIBEN), established on 23rd November 1970, is a federal government-owned tertiary institution. It was originally created as the Midwest Institute of Technology by the then Colonel Samuel Osaigbovo Ogbemudia-led military administration and was accorded the status of a full-fledged University by National Universities Commission (NUC) on 1st July, 1971. In his Budget Speech in April, 1972, the then Military Governor of Mid-Western State, Col. S.O. Ogbemudia (then Visitor of the University) formally announced the change of name of the Institute of Technology to University of Benin. [98,99,101] The University of Benin offers courses at various levels: Postgraduate, Undergraduate, Diploma and Certificate. [99] Currently, UNIBEN has sixteen (16) Faculties, two (2) Colleges, various Centres of Excellence and a number of Institutes [98,100,101] . The Faculties comprise Agriculture, Arts, Basic Medical Sciences(BMS), Dentistry, Education, Engineering, Environmental Science, Law, Life Science

(LSC), Management Sciences, Medicine, Pharmacy, Physical Science (PSC), Social Science, Veterinary Medicine, Vocational and Technical Education (VTE). The University essentially operates the Faculty System with the Dean as administrative head. [99,100] The Colleges are Colleges of Medical Sciences and College of Postgraduate Studies. The College of Medical Sciences comprises of the School of Medicine, Dentistry, Basic Medical Sciences and the Institute of Child Health. [101] The Centres of Excellence include Centre of Excellence in Reproductive Health Innovation (CERHI), Centre of Excellence in Aquaculture and Food Technology, Centre of Excellence in Geosciences and Petroleum Engineering (COEGPE), Centre of Excellence in Sustainable Procurement, Environmental and Social Standards Enhancement (SPESSE), Centre of Excellence in Innovations and Research Development. [101] The Institutes include Institute for Child Health, Institute of Education, Institute of Public Administration and Extension Services (IPAES) among others. [98,99,100,101]

The University of Benin performs its operations with the aid of two campuses, the Ugbowo campus which is the main campus and Ekehuan campus. [99] The University of Benin which commenced academic activities at the site of the Old Teachers' Training College on Ekehuan Road (which is now one of the campuses of the University – Ekehuan Campus) with 109 students, now has an estimated 60,000 student population who are spread across the two campuses of the University. The current vice chancellor is Prof. Edoba Omoregie. [101] UNIBEN hosts a variety of events throughout the academic year, including academic conferences, cultural festivals, sports tournaments, and student talent showcases with the Convocation Ceremony serving as a highlight, celebrating the achievements of graduating students. [102]

Benson Idahosa University(BIU) is a private tertiary institution in Benin City, Edo State. The university commenced its academic programmes as Christian Faith University-Institute of

Continuous Learning in 1993 at the Ugbor Campus by organising academic and professional programs for young students. In February 2002, ten years after the application to start a private University, the Federal Government, acting through the National Universities Commission (NUC), granted Benson Idahosa University license to operate. The University started operating as a fully licensed institution in March 2002 with an initial student enrolment of 400, registered into two faculties (Faculty of Arts, Social Sciences,Education and Faculty of Basic and Applied Sciences).

The University's foundational leadership included Professor Eghosa Osagie as the first Vice-Chancellor and Mr. E. M. Obadan as the first Registrar. Currently, Professor John Aroye Okhuoya serves as Vice-Chancellor of the University. It presently has an enrollment of over 5,000 students offering a variety of academic programmes across undergraduate, postgraduate and diploma levels spanning different Faculties and disciplines [103,104,105]

BIU presently has several Faculties, one (1) College and one (1) School. The Faculties comprise Agriculture, Arts and Education, Engineering, Law, Sciences and Social and Management Sciences. The College is the College of Medicine which has the Faculty of Medicine and the Faculty of Basic and Health Sciences under it while the School is the School of Postgraduate Studies. [103] The Faculty of Agriculture, Faculty of Arts and Education , Faculty of Engineering and Faculty of Law are located at the Legacy Campus, which was opened in the Okha district in 2020. [103,106]

Wellspring University is a Nigerian-based private learning institution that officially began operations in 2009. It currently offers seventeen (17) undergraduate courses across four(4) colleges, as well as postgraduate courses and part-time courses. The colleges include College of Health Sciences, Science and Computing, Natural and Applied Sciences, Social and

Management Sciences. The College of Health Sciences was established in 2021 and offers courses which include Nursing Science, Public Health and Medical Laboratory Science. The College of Science and Computing provides a range of programmes including Microbiology, Computer Science, Mathematics, Physics, and Chemistry amongst others.The College of Social and Management Sciences offers courses such as Accounting, Economics, Mass Communication and Business Administration amongst others. The University's historical leadership includes Professor F.E Obi Ikediugwu, who served as its first Vice-Chancellor while the current administrative structure comprises Professor Isaac Rotimi Ajayi as Vice-Chancellor, Pastor Itua Ighodalo as Chancellor, and Daniel Chegile Isimoya as Pro-Chancellor. The University reported an enrollment of approximately 1,200 undergraduate students and over 200 post-graduate students, totalling more than 1,400 student for the 2023/2024 session. [107]

**3.2 STUDY DESIGN**

A descriptive cross-sectional study design was used for this study.

**3.3 STUDY DURATION**

This study was conducted between April 2024 and September 2025.

**3.4 STUDY POPULATION**

The study population was comprised of undergraduate students of selected tertiary institutions in Benin City, Edo State.

**3.5 SELECTION CRITERIA**

**3.5.1 Inclusion Criteria**

i. Undergraduate students in selected tertiary institutions in Benin City, Edo State who were present at the time of the study.

ii. Undergraduate students between their second and final year of study.

### 3.5.2 Exclusion Criteria

i. Undergraduate students in selected tertiary institutions in Benin City that were too ill to respond.

## 3.6 SAMPLE SIZE DETERMINATION

The minimum sample size (n) was calculated using the Cochran's formula for a cross-sectional study.[108]

$$n = \frac{Z^2pq}{d^2}$$

Where:

n = minimum sample size

Z = standard normal deviation set at 1.96 (at 95% confidence interval)

d = degree of precision set at 0.05

p = prevalence rate of 85.3% was used. This is the percentage of students that participate in physical activity in a study done at University of Maiduguri, Nigeria in 2017 to assess the patterns of physical activity among undergraduate students [89]

Therefore,

p = 85.3%

$= \frac{85.3}{100}$

p = 0.853

$q = 1 - p$

$q = 1 - 0.853$

$q = 0.147$

Hence:

$$n = \frac{1.96^2 \times 0.853 \times 0.147}{0.05^2}$$

n= 192.67

To make room for non-response, a non-response rate of 10% was added to the minimum sample size, utilizing the formula

$$n_{final} = \frac{n}{1 - nr}$$

Where:

n = Original sample size before considering non responses = 192.67

nr = Non-response rate = 10% = 0.10

$n_{final}$ = Adjusted sample size after accounting for non-responses.

$$= \frac{192.67}{1 - 0.10}$$

$$= \frac{192.67}{0.9}$$

$$= 214.08 \approx 214$$

A design effect of 2 was used.

= 214 x 2 = 428

Thus, the final minimum sample size for this study was 428. A sample size of 430 was used.

## 3.7 SAMPLING TECHNIQUE

The respondents for this study was selected using a multistage sampling technique.

**Computation of the number of students to be selected**

**Stage One: Selection of Campus**

For the tertiary institutions with more than one campus such as UNIBEN and BIU, simple random sampling by balloting was utilized:

UNIBEN has two (2) campuses – Ugbowo campus and Ekehuan campus.

Therefore, using simple random sampling, Ugbowo Campus was selected for this study.

BIU also has two (2) campuses – Ugbor campus and Legacy campus.

And Ugbor Campus was selected using the same technique.

Wellspring University functions through a single main campus.

**Stage Two: Selection of Faculties/Colleges**

UNIBEN

There are seventeen (17) Faculties in UNIBEN and with the aid of simple random sampling by balloting, nine (9) Faculties were selected which includes Faculty of Agric, Arts, Basic Medical Sciences (BMS), Law, Life Sciences (LSC), Medicine, Pharmacy, Physical Sciences and Veterinary Medicine.

BIU

There are five (5) Faculties in the Ugbor Campus and three (3) Faculties were selected using simple random sampling by balloting which includes Faculty of Basic and Health Sciences, Medicine amd Faculty of Social and Management Sciences.

WELLSPRING UNIVERSITY

The University operates the Collegiate System and has four (4) Colleges and by simple random sampling, two colleges were chosen which are College of Health Sciences and College of Science and Computing.

**Stage Three: Selection of Departments**

UNIBEN

An aggregate of forty-five (45) departments was obtained from the selected faculties. One department was selected from each faculty using simple random sampling by balloting. These were Crop Science (Agriculture), Linguistic Studies (Arts), Physiotherapy (BMS), Law, Microbiology (LSC), Medicine, Pharmacy, Mathematics (PSC) and Veterinary Medicine.

BIU

The number of departments under the selected faculties were seven (7). Simple random sampling by balloting was utilized to select a department from each faculty. The selected departments were Sociology ( Social and Management Sciences), Medicine and Nursing Science (Basic and Health Sciences).

WELLSPRING UNIVERSITY

Likewise, the total number of departments under the selected colleges were seven (7) and a department was selected from each college using simple random sampling by balloting. The selected departments were Nursing Science (Health Sciences) and Computer Science ( Science and Computing).

**Stage Four: Selection of Respondents per Level**

The total number of students in each selected department and the number of students in each level was obtained.

A Stratified sampling technique was utilized to know the number of questionnaires that was distributed to each level in every selected department.

The basic formula for proportional allocation was utilized which is:

$$n_h = n * (N_h / N)$$

Where;

n_h = Sample size for stratum h = The sample size for that level

n = Total sample size = Total respondents for the selected department

N_h = Size of stratum h = Number of students in that level

N = Total population size = Total number of students in the selected department

A systematic sampling technique was used to select students in each stratum. The sampling interval was computed for each level.

Sampling interval = N/n

Where;

N = total number of students in that level from the class list

n = sample size allocated to each level

The first student was selected by simple random sampling using a table of random numbers after which, a systematic sampling interval was used to select subsequent students.

The class list for each level served as a sampling frame from which students was selected using a systematic sampling technique.

**POPULATION OF UNDERGRADUATE STUDENTS IN SELECTED DEPARTMENTS IN SELECTED TERTIARY INSTITUTIONS IN BENIN CITY, EDO STATE IN 2025**

**UNIBEN**

| DEPARTMENT | 200 LEVEL | 300 LEVEL | 400 LEVEL | 500 LEVEL | 600 LEVEL | ROW TOTAL |
|---|---|---|---|---|---|---|
| Crop Science | 50 | 61 | 10 | 30 | - | 151 |
| Linguistics | 106 | 79 | 95 | - | - | 280 |
| Physiotherapy | 123 | 127 | 263 | - | - | 513 |
| Law | 188 | 197 | 369 | - | - | 754 |
| Microbiology | 144 | 153 | 146 | - | - | 433 |
| Medicine | 183 | 139 | 134 | 128 | 122 | 706 |
| Pharmacy | 181 | 184 | 204 | 193 | 166 | 928 |
| Mathematics | 71 | 39 | 32 | - | - | 142 |
| Veterinary Medicine | 26 | 29 | 15 | 28 | 16 | 114 |
| TOTAL | | | | | | 4021 |

**BIU**

| DEPARTMENT | 200 LEVEL | 300 LEVEL | 400 LEVEL | 500 LEVEL | ROW TOTAL |
|---|---|---|---|---|---|
| Medicine | 64 | 50 | 72 | - | 186 |
| Nursing | 197 | 230 | 139 | 130 | 696 |
| Sociology | 17 | 35 | 26 | - | 78 |
| TOTAL | | | | | 960 |

**WELLSPRING**

| DEPARTMENT | 200 LEVEL | 300 LEVEL | 400 LEVEL | 500 LEVEL | ROW TOTAL |
|---|---|---|---|---|---|
| Computer Science | 47 | 20 | 16 | - | 83 |
| Nursing Science | 150 | 120 | 56 | 19 | 345 |

| | | | | | |
|---|---|---|---|---|---|
| TOTAL | | | | | 428 |

The total number of undergraduate students in the selected departments in selected tertiary institutions in Benin City, Edo State is

4021 + 960 + 428 = 5409

The number of questionnaires that was distributed to each level in every selected department are:

**UNIBEN**

**Crop Science**

200 LEVEL = 50/5409 × 430 = 4

300 LEVEL = 61/5409 × 430 = 5

400 LEVEL = 10/5409 × 430 = 1

500 LEVEL = 30/5409× 430 = 3

**Linguistics**

200 LEVEL = 106/5409 × 430 = 9

300 LEVEL = 79/5409 ×430 = 6

400 LEVEL = 95/5409× 430 = 8

**Physiotherapy**

200 LEVEL = 123/5409 × 430 = 10

300 LEVEL = 127/5409 ×430 = 10

400 LEVEL = 263/5409 × 430 = 21

**Law**

200 LEVEL = 188/5409 ×430 = 15

300 LEVEL = 197/5409 × 430 = 16

400 LEVEL = 369/5409 × 430 = 29

**Microbiology**

200 LEVEL = 144/5409 × 430 = 11

300 LEVEL = 153/5409 × 430 = 12

400 LEVEL = 146/5409 × 430 = 12

**Medicine**

200 LEVEL = 183/5409 × 430 = 15

300 LEVEL = 139/5409 × 430 = 11

400 LEVEL = 134/5409 × 430 = 11

500 LEVEL = 128/5409 × 430 = 10

600 LEVEL = 122/5409 × 430 = 9

**Pharmacy**

200 LEVEL = 181/5409 × 430 = 14

300 LEVEL = 184/5409 × 430 = 14

400 LEVEL = 204/5409× 430 = 16

500 LEVEL = 193/5409 × 430 = 15

600 LEVEL = 166/5409 × 430 = 13

**Mathematics**

200 LEVEL = 71/5409 × 430 = 6

300 LEVEL = 39/5400 × 430 = 3

400 LEVEL = 32/5409 × 430 = 3

**Veterinary Medicine**

200 LEVEL = 26/5409 × 430 = 2

300 LEVEL = 29/5409 × 430 = 2

400 LEVEL = 15/5409 × 430 = 1

500 LEVEL = 28/5409 × 430 = 2

600 LEVEL = 16/5409 × 430 = 1

**TOTAL NUMBER OF QUESTIONNAIRES THAT WAS ADMINISTERED = 320**

**BIU**

**Medicine** =

200 LEVEL = 64/5409 × 430 = 5

300 LEVEL = 72/5409 × 430 = 6

400 LEVEL = 50/5409 × 430 = 4

**Nursing**

200 LEVEL = 197/5409 × 430 = 15

300 LEVEL = 230/5409 × 430 = 18

400 LEVEL = 139/5409 × 430 = 11

500 LEVEL = 130/5409 × 430 = 10

**Sociology**

200 LEVEL = 17/5409 × 430 = 1

300 LEVEL = 35/5409 × 430 = 3

400 LEVEL = 26/5409 × 430 = 2

**TOTAL NUMBER OF QUESTIONNAIRES THAT WAS ADMINISTERED = 75**

**WELLSPRING**

**Computer Science**

200 LEVEL = 47/5409 × 430 = 4

300 LEVEL = 20/5409 × 430 = 2

400 LEVEL = 16/5409 × 430 = 1

**Nursing Science**

200 LEVEL = 150/5409 × 430 = 12

300 LEVEL = 120/5409 × 430 = 10

400 LEVEL = 56/5409 × 430 = 4

500 LEVEL = 19/5409 × 430 = 2

**TOTAL NUMBER OF QUESTIONNAIRES THAT WAS ADMINISTERED = 35**

**UNIBEN**

| DEPARTMENT | 200 LEVEL | 300 LEVEL | 400 LEVEL | 500 LEVEL | 600 LEVEL | ROW TOTAL |
|---|---|---|---|---|---|---|
| Crop Science | 4 | 5 | 1 | 3 | - | 13 |
| Linguistics | 9 | 6 | 8 | - | - | 23 |
| Physiotherapy | 10 | 10 | 21 | - | - | 41 |
| Law | 15 | 16 | 29 | - | - | 60 |
| Microbiology | 11 | 12 | 12 | - | - | 35 |
| Medicine | 15 | 11 | 11 | 10 | 9 | 56 |
| Pharmacy | 14 | 14 | 16 | 15 | 13 | 72 |
| Mathematics | 6 | 3 | 3 | - | - | 12 |
| Veterinary Medicine | 2 | 2 | 1 | 2 | 1 | 8 |
| TOTAL | | | | | | 320 |

**BIU**

| DEPARTMENT | 200 LEVEL | 300 LEVEL | 400 LEVEL | 500 LEVEL | ROW TOTAL |
|---|---|---|---|---|---|
| Medicine | 5 | 6 | 4 | - | 15 |
| Nursing | 15 | 18 | 11 | 10 | 54 |
| Sociology | 1 | 3 | 2 | - | 6 |
| TOTAL | | | | | 75 |

**WELLSPRING**

| DEPARTMENT | 200 LEVEL | 300 LEVEL | 400 LEVEL | 500 LEVEL | ROW TOTAL |
|---|---|---|---|---|---|
| Computer Science | 4 | 2 | 1 | - | 7 |
| Nursing Science | 12 | 10 | 4 | 2 | 28 |
| TOTAL | | | | | 61 |

Total number of questionnaires = 565 + 134 + 61 = 760

**3.8 DATA MANAGEMENT**

### 3.8.1 DATA COLLECTION

A structured self-administered questionnaire adapted from IPAQ, EBBS and AAQ was used for this study. The questionnaire has both open-ended and closed-ended questions incorporated into it. The survey assessed student: knowledge of exercise via the American Adult Knowledge of Exercise Recommendations Survey (AAKERS), exercise habits through the International Physical Activity Questionnaire (IPAQ) Long Form, sports benefits through the EBBS and Academic Performance using the Academic Achievement Questionnaire (AAQ). The questions were grouped into six sections as follows:

**Section A: Sociodemographic Characteristics of respondents**

This section obtained information from the respondents regarding age, sex, ethnic group, religion, marital status, institution, department, level, residence, monthly, allowance.

**Section B:** To assess the knowledge of sporting activities among undergraduate students in Benin City.

**Section C:** To ascertain the attitudes toward sporting activities among undergraduate students in Benin City.

**Section D:** To determine the prevalence and level of participation of undergraduate students in sporting activities.

**Section E:** To identify the determinants of participation in sporting activities among undergraduate students in Benin City.

**Section F:** To determine the influence of sporting activities on academic performance.

**TOOLS FOR DATA COLLECTION**

This includes the structured self-administered questionnaires utilized to obtain quantitative and qualitative data from the undergraduate students.

**METHOD OF DATA COLLECTION**

The questionnaire was self-administered because the study was carried out among undergraduate students who are educated people. However, the researchers were around to clarify and assist the respondents where necessary.

### 3.8.2 DATA PRESENTATION

The results obtained was presented using tables, charts and prose.

### 3.8.3 PRE-TESTING

Pre-testing was carried out among Nursing students at Igbinedion University Okada.

Ten percent of the sample size (43 questionnaires) in the proportion was used for pretesting. The was to identify errors, effect corrections and ensure validity and reliability of the questionnaire to aid appropriate collection of data. Appropriate corrections were made where applicable to the questionnaire before commencement of this survey.

### 3.8.4 SORTING FOR COMPLETENESS

This involved organizing and reviewing collected data or project components to ensure that nothing is missing, incomplete, or left unaddressed before analysis, reporting or final submission.

### 3.8.5 DATA ANALYSIS

The completed questionnaires were collected and thoroughly checked for any inconsistencies. Data sorting and coding was done. Data was entered and analyzed with IBM Statistical Package for Social Sciences (SPSS) version 25.0 software.

Multivariate analysis using binary logistic regression was carried out to further determine the significant predictors of outcome variable likelihood of going abroad for postgraduate study among undergraduate students. Exploratory variables that were associated with the outcome variable in univariate analysis was included in the initial logistic models of multivariable analysis. The crude and adjusted odds ratio together with their corresponding 95% confidence intervals was computed. The level of significance for all statistical associations was set at $p < 0.05$.

### 3.8.6 SCORING SYSTEM

**Knowledge of sporting activities**

A total of 56 responses addressing 5 knowledge domains. A score of 1 was given for correct response and 0 for incorrect response giving a maximum achievable score of 56 and a minimum of 0. The scores were converted to percentages and grouped as follows[126]:

Good Knowledge: scores ≥ 60%

Poor Knowledge: scores < 60%

**Attitude towads sporting activities**

A total of 10 questions using a 5-point Likert scale.

Strongly agree = 4, Agree = 3, Neutral = 2, Disagree = 1, Strongly disagree = 0

The total score ranged from 0 to 40.

Internal consistency of the 10-item 5-point Likert scale was assessed using Cronbach's alpha.

The scale demonstrated good reliability (**$\alpha = 0.890$**).

Scores was totaled and converted to percentages and grouped as follows:

Positive attitude: scores ≥70%

Negative attitude: scores <70%

**Prevalence of sporting activities**

A total of 32 questions was used to determine respondents' prevalence of sporting activites.

The prevalence scores ranged from 0 (minimum) to 32 (maximum) and were calculated and converted into percentages of the maximum attainable score. The interpretation was as follows[126]:

Good prevalence: scores ≥70%

Poor prevalence: scores <70%

**Academic performance**

A total of 7 questions were asked:

Undergraduate students with a CGPA of Second Class Lower and above were interpreted as good performance.

Undergraduate students with a CGPA of lower than Second Class Lower e were interpreted as poor performance.

## 3.9 ETHICAL CONSIDERATION

Ethical approval and permission to carry out the study was obtained from the Health Research and Ethics Committee University of Benin Teaching Hospital with registration number **NHREC-UBTH-HREC/24/12/2022B**.

Institutional approval was obtained from the University's designated Research Ethics Committee.

Informed consent was obtained from the respondents before administering the questionnaires. Names and addresses were omitted to ensure confidentiality. The respondents were informed that they have the right to withdraw from the study at any time and that withdrawal poses no loss or harm.

## 3.10 LIMITATION OF STUDY

This study relied on information provided by the respondents and may therefore be limited by recall bias.

Some respondents may inadvertently provide inaccurate information or withhold certain details. To minimize recall bias, simple and clear questions was used, and the respondents were reassured of the confidentiality and importance of providing accurate responses.

# CHAPTER FOUR

# RESULTS

A total of 430 undergraduate students in tertiary institutions in Benin City participated in this study with a response rate was 93.0%. The results are presented in the following sessions in line with the specific objectives:

**SECTION A:** Sociodemographic characteristics of undergraduate students in Benin City

**SECTION B:** Knowledge of sporting activities among undergraduate students in Benin City

**SECTION C:** Attitude towards sporting activities among undergraduate students in Benin City

**SECTION D:** Prevalence and level of participation in sporting activities among undergraduate students in Benin City

**SECTION E:** Determinants of participation in sporting activities among undergraduate students in Benin City

**SECTION F:** Influence of sporting activities on academic performance among undergraduate students in Benin City

## SECTION A: SOCIODEMOGRAPHIC CHARACTERISITICS OF RESPONDENTS

**Table 1: Sociodemographic characteristics of undergraduates in Benin City, Edo State**

| Variables | Frequency (n=400) | Percent (%) |
|---|---|---|
| **Age (years)** | | |
| 15-19 | 83 | 20.8 |
| 20-24 | 241 | 60.3 |
| 25-29 | 72 | 18.0 |
| 30-34 | 3 | 0.8 |
| 35-39 | 1 | 0.3 |
| Mean ± SD = 21.95 ± 2.834 | | |
| **Sex** | | |
| Male | 193 | 48.3 |
| Female | 207 | 51.7 |
| **Ethnicity** | | |
| Benin | 115 | 28.8 |
| Etsako | 67 | 16.8 |
| Urhobo | 65 | 16.3 |
| Yoruba | 47 | 11.8 |
| Igbo | 45 | 11.3 |
| Esan | 43 | 10.8 |
| Hausa | 6 | 1.5 |
| Ijaw | 5 | 1.3 |
| Ibibio | 4 | 1.0 |
| Others* | 3 | 0.8 |
| **Religion** | | |
| Christianity | 370 | 92.5 |
| Islam | 26 | 6.5 |
| African traditional religion | 4 | 1.0 |
| **Marital status** | | |
| Single | 358 | 89.5 |
| Married | 42 | 10.5 |
| **Institution of respondents** | | |
| UNIBEN | 297 | 74.3 |
| BIU | 71 | 17.8 |
| Wellspring | 32 | 8.0 |
| **Department** | | |
| Nursing | 77 | 19.3 |
| Pharmacy | 69 | 17.3 |
| Medicine | 66 | 16.5 |
| Law | 56 | 14.0 |
| Physiotherapy | 38 | 9.5 |
| Microbiology | 32 | 8.0 |
| Linguistics | 21 | 5.3 |
| Crop Science | 11 | 2.8 |
| Mathematics | 10 | 2.5 |
| Veterinary Medicine | 8 | 2.0 |
| Computer | 6 | 1.5 |
| Sociology | 6 | 1.5 |
| Veterinary Medicine | 8 | 2.0 |
| **Level** | | |
| 200 | 114 | 28.5 |
| 300 | 108 | 27.0 |
| 400 | 116 | 29.0 |
| 500 | 40 | 10.0 |
| 600 | 22 | 5.5 |
| **Employment status** | | |
| Employed | 131 | 32.8 |
| Unemployed | 269 | 67.3 |
| **Residence** | | |
| School hostel | 233 | 58.3 |
| Off campus | 135 | 33.8 |
| Home | 32 | 8.0 |
| **Allowance** | | |
| ≤ ₦ 30,000 | 3 | 0.8 |
| > ₦ 30,000 | 397 | 99.3 |

UNIBEN – University of Benin, BIU – Benson Idahosa University, *Others – Jukun, Tiv

The mean age of respondents was 21.95 ± 2.83 years, with the majority 241 (60.3%) aged 20–24 years, followed by 83 (20.8%) aged 15–19 years, while 72 (18.0%), 3 (0.8%) and 1 (0.3%) were in the 25-29, 30–34 and 35–39 age groups, respectively.

With respect to sex, there were slightly more females 207 (51.7%) than males 193 (48.3%). The respondents were drawn from diverse ethnic groups, with Benin 115 (28.8%), Etsako 67 (16.8%) and Urhobo 65 (16.3%) constituting the major ethnic groups. Other ethnic groups included Yoruba 47 (11.8%), Igbo 45 (11.3%), Esan 43 (10.8%), Hausa 6 (1.5%), Ijaw 5 (1.3%), Ibibio 4 (1.0%) and a few from other ethnic groups (0.8%). In terms of religion, the majority were Christians 370 (92.5%), while 26 (6.5%) were Muslims and 4 (1.0%) practiced African traditional religion. Most respondents were single 358 (89.5%), while 42 1(0.5%) were married.

Concerning institution, the largest proportion of respondents were from the University of Benin 297 (74.3%), followed by Benson Idahosa University 71 (17.8%) and Wellspring University 32 (8.0%). Considering departments, Nursing 77 (19.3%), Pharmacy 69 (17.3%), Medicine 66 (16.5%) and Law 56 (14.0%) had the highest representation, while smaller proportions were drawn from Physiotherapy 38 (9.5%), Microbiology 32 (8.0%), Linguistics 21 (5.3%), Crop Science 11 (2.8%), Mathematics 10 (2.5%), Veterinary Medicine 8 (2.0%), Computer Science 6 (1.5%) and Sociology 6 (1.5%). Distribution across levels of study showed that 116 (29.0%) were in 400 level, 114 (28.5%) in 200 level,108 (27.0%) in 300 level, 40 (10.0%) in 500 level and 22 (5.5%) in 600 level.

Regarding employment status, most respondents were unemployed 269 (67.3%) while 131 (32.8%) were employed. For residence, over half 233 (58.3%) lived in school hostels, 135 (33.8%) resided off-campus and 32 (8.0%) lived at home. Almost all respondents 397 (99.3%)

received a monthly allowance above ₦30,000 while 3 (0.8%) reported an allowance of ₦30,000 or less.

## SECTION B:

## KNOWLEDGE OF SPORTING ACTIVITIES AMONG UNDERGRADUATES IN BENIN CITY

**Table 2: Awareness of sporting activities among undergraduates in Benin City, Edo State**

| Variables | Frequency (n=400) | Percent |
|---|---|---|
| **Heard of sporting activities** | | |
| Yes | 400 | 100.0 |
| **Source of information** | | |
| Family | 258 | 64.5 |
| Television | 131 | 32.8 |
| Friends | 11 | 2.8 |

All respondents (100%) reported that they had heard of sporting activities. The most common source of information was family 258 (64.5%), followed by television 131 (32.8%) with a small proportion 11 (2.8%) indicating that they heard of sporting activities through friends.

## Table 3: Knowledge of sporting activities among undergraduates in Benin City, Edo State

| Variables | Frequency (n=400) | Percent |
|---|---|---|
| **Types of sporting activities(n=400)*** | | |
| Mental | 306 | 76.5 |
| Physical | 300 | 75.0 |
| **Examples of mental sporting activities(n=400)*** | | |
| Chess | 329 | 82.3 |
| Scrabble | 289 | 72.3 |
| Esports | 223 | 55.8 |
| Football | 83 | 20.8 |
| Running | 81 | 20.3 |
| Swimming | 62 | 15.5 |
| Basketball | 48 | 12.0 |
| **Examples of physical sporting activities(n=400)*** | | |
| Running | 376 | 94.0 |
| Football | 371 | 92.8 |
| Basketball | 358 | 89.5 |
| Swimming | 337 | 84.3 |
| Esports | 81 | 20.3 |
| Scrabble | 54 | 13.5 |
| Chess | 18 | 4.5 |
| **Types of physical sporting activities(n=400)*** | | |
| Vigorous | 177 | 44.3 |
| Moderate | 145 | 36.3 |
| Low | 171 | 42.8 |
| **Examples of vigorous intensity physical sports(n=400)*** | | |
| Football | 213 | 53.3 |
| Basketball | 210 | 52.5 |
| Swimming | 151 | 37.8 |
| Volleyball | 64 | 16.0 |
| Table tennis | 37 | 9.3 |
| Golf | 0 | 0 |
| **Examples of moderate intensity physical sports(n=400)*** | | |
| Table tennis | 148 | 37.0 |
| Volleyball | 111 | 27.8 |
| Swimming | 46 | 11.5 |
| Basketball | 40 | 10.0 |
| Football | 0 | 0 |
| Golf | 0 | 0 |
| **Examples of low intensity physical sports(n=400)*** | | |
| Golf | 213 | 53.3 |
| Table tennis | 70 | 17.5 |
| Volleyball | 22 | 5.5 |
| Swimming | 10 | 2.5 |
| Basketball | 0 | 0 |
| Football | 0 | 0 |
| **Types of sporting facilities in institution** | | |
| Yes | 303 | 75.8 |
| No | 97 | 24.2 |
| **Location of sporting facilities in institution** | | |
| Yes | 285 | 71.3 |
| No | 115 | 28.7 |
| **Knowledge of time for practice** | | |
| Yes | 255 | 63.8 |
| No | 145 | 36.3 |
| **Knowledge of intellectual benefits** | | |
| Improves multitasking abilities | 351 | 87.8 |
| Enhances memory and learning | 338 | 84.5 |
| Improves concentration and attention | 324 | 81.0 |
| Reduces alertness and awakeness | 84 | 21.0 |
| Problem solving and decision-making skills | 309 | 77.3 |
| Improves academic performance | 287 | 71.8 |
| Increases age-related cognitive decline | 134 | 33.5 |
| **Knowledge of physical benefits** | | |
| Help in weight management | 358 | 89.5 |
| Improves our posture and flexibility | 336 | 84.0 |

| | | |
|---|---|---|
| Suppress the immune system | 76 | 19.0 |
| Reduces strength of muscles and bones | 85 | 21.3 |
| Decreases risk of hypertension and diabetes | 314 | 78.5 |
| **Knowledge of psychological benefits** | | |
| Reduces confidence and self esteem | 349 | 87.3 |
| Improves perseverance and resilience | 331 | 82.8 |
| Reduces stress and anxiety | 314 | 78.5 |
| Impairs focus and reduces concentration | 112 | 28.0 |
| Maintains emotional stability | 282 | 70.5 |
| **Knowledge of social benefits** | | |
| Increases the feeling of loneliness | 14 | 3.5 |
| Reduces interpersonal skills | 20 | 5.0 |
| Enhances teamwork and collaboration skills | 337 | 84.3 |
| Improves social connection and communication | 331 | 82.8 |
| Worsens leadership skills | 76 | 19.0 |

***multiple response questions, Cronbach's Alpha = 0.483**

A large proportion of students identified mental sporting activities 306 (76.5%) and physical sporting activities 300 (75.0%) as types of sporting acting activities. Regarding mental sporting activities, the most frequently recognized was chess 329 (82.3%) while 289 (72.3%) and 223 (55.8%) also correctly recognized scrabble and esports as mental sporting activities. However, some students incorrectly classified football 83 (20.8%), running 81 (20.3%), swimming 62 (15.5%), and basketball 48 (12.0%) as mental sporting activities.

Almost all respondents correctly identified running 376 (94.0%), football 371 (92.8%), basketball 358 (89.5%), and swimming 337 (84.3%) as physical activities. However, a few also wrongly categorized esports 81 (20.3%), scrabble 54 (13.5%), and chess 18 (4.5%) as physical sporting activities.

Concerning types of physical sporting activities, 177 (44.3%) respondents recognized vigorous intensity physical sports as while 145 (36.3%) and 171 (42.8%) recognized moderate intensity and low intensity physical sports respectively. With respect to examples of vigorous intensity sports, students most commonly identified football 213 (53.3%), basketball 210 (52.5%), and swimming 151 (37.8%). Fewer cited volleyball 64 (16.0%) and table tennis 37 (9.3%), while golf was not identified as vigorous intensity physical sports.

Concerning examples of moderate intensity sports, the most frequently identified were table tennis 148 (37.0%) and volleyball 111 (27.8%), while some students wrongly classified swimming 46 (11.5%) and basketball 40 (10.0%) as moderate intensity sports. However, football and golf were not identified as moderate intensity physical sports.

Golf was the most frequently cited as low intensity physical sports 213 (53.3%), while some students erroneously recognized table tennis 70 (17.5%), volleyball 22 (5.5%) and swimming 10 (2.5%) as low intensity physical sports. However, none identified basketball or football as low intensity physical sports.

Most respondents were aware that their institutions had sporting facilities 303 (75.8%) while 97 (24.2%) said otherwise. Among those aware, 285 (71.3%) knew the location of the facilities, and all 285 (100%) correctly identified the sports complex as the location of the sporting facilities in their institution. Over half of the students 255 (63.8%) reported knowledge of the time for practice while 145 (36.3%) indicated no such knowledge.

Regarding knowledge intellectual benefits, 351 (87.8%) of students identified that sporting activities improves multitasking abilities, likewise 338 (84.5%) and 324 (81.0%) identified that sports enhance memory and learning, and improves concentration and attention respectively. Some students 84 (21.0%) and 134 (33.5%) however wrongly identified that sports reduces alertness and awakeness, and increases age-related cognitive decline respectively.

Concerning knowledge of physical benefits, majority of students 358 (89.5%) identified that sports help in weight management. However, some students 85 (21.3%) wrongly reported that sports reduces strength of muscles and bones.

With respect to psychological benefits, majority of students 331 (82.8%) correctly identified that sports improves perseverance and resilience, on the other hand, some students 112 (28.0%) wrongly identified that it impairs focus and reduces concentration.

Regarding knowledge of social benefits, a large number of students 337 (84.3%) correctly identified that sports enhance teamwork and collaboration skills. Conversely, some students 76 (19.0%) wrongly identified sports to worsen leadership skills.

**Table 4: Correctness of response to knowledge of sporting activities among undergraduates in Benin City, Edo State**

| Variables | Correct freq (%) | Incorrect freq (%) |
|---|---|---|
| **Types of sporting activities (n=400)*** | | |
| Mental | 306 (76.5) | 94 (23.5) |
| Physical | 300 (75.0) | 100 (25.0) |
| **Examples of mental sports** | | |
| Basketball | 352 (88.0) | 48 (12.0) |
| Swimming | 338 (84.5) | 62 (15.5) |
| Chess | 329 (82.3) | 71 (17.8) |
| Running | 319 (79.8) | 81 (20.3) |
| Football | 317 (79.3) | 83 (20.8) |
| Scrabble | 289 (72.3) | 111 (27.8) |
| Esports | 223 (55.8) | 177 (44.3) |
| **Examples of physical sports** | | |
| Chess | 382 (95.5) | 18 (4.5) |
| Running | 376 (94.0) | 24 (6.0) |
| Football | 371 (92.8) | 29 (7.2) |
| Basketball | 358 (89.5) | 42 (10.5) |
| Scrabble | 346 (86.5) | 54 (13.5) |
| Swimming | 337 (84.3) | 63 (15.8) |
| Esports | 319 (79.8) | 81 (20.3) |
| **Types of physical sports(n=400)*** | | |
| Vigorous | 177 (44.3) | 223 (55.7) |
| Moderate | 145 (36.3) | 255 (63.8) |
| Low | 171 (42.8) | 229 (57.3) |
| **Examples of vigorous intensity sports** | | |
| Football | 213 (53.3) | 187 (46.8) |
| Golf | 213 (53.3) | 187 (46.8) |
| Basketball | 210 (52.5) | 190 (47.5) |
| Table tennis | 176 (44.0) | 224 (56.0) |
| Swimming | 151 (37.8) | 249 (62.3) |
| Volleyball | 149 (37.3) | 251 (62.8) |
| **Examples of moderate intensity sports** | | |
| Football | 213 (53.3) | 187 (46.8) |
| Golf | 213 (53.3) | 187 (46.8) |
| Basketball | 173 (43.3) | 227 (56.8) |
| Swimming | 167 (41.8) | 233 (58.3) |
| Table tennis | 148 (37.0) | 252 (63.0) |
| Volleyball | 111 (27.8) | 289 (72.3) |
| **Examples of low intensity sports** | | |
| Basketball | 213 (53.3) | 187 (46.8) |
| Football | 213 (53.3) | 187 (46.8) |
| Golf | 213 (53.3) | 187 (46.8) |
| Swimming | 203 (50.8) | 197 (49.3) |
| Volleyball | 191 (47.8) | 209 (52.3) |
| Table tennis | 143 (35.8) | 257 (64.2) |
| **Knowledge of intellectual benefits** | | |

| | | |
|---|---|---|
| Improves multitasking abilities | 351 (87.8) | 49 (12.3) |
| Enhances memory and learning | 338 (84.5) | 62 (15.5) |
| Improves concentration and attention | 324 (81.0) | 76 (19.0) |
| Reduces alertness and awakeness | 316 (79.0) | 84 (21.0) |
| Problem solving and decision-making skills | 309 (77.3) | 91 (22.8) |
| Improves academic performance | 287 (71.8) | 113 (28.2) |
| Increases age-related cognitive decline | 266 (66.5) | 134 (33.5) |
| **Knowledge of physical benefits** | | |
| Help in weight management | 358 (89.5) | 42 (10.5) |
| Improves our posture and flexibility | 336 (84.0) | 64 (16.0) |
| Suppress the immune system | 324 (81.0) | 76 (19.0) |
| Reduces strength of muscles and bones | 315 (78.8) | 85 (21.3) |
| Decreases risk of hypertension and diabetes | 314 (78.5) | 86 (21.5) |
| **Knowledge of psychological benefits** | | |
| Reduces confidence and self esteem | 349 (87.3) | 51 (12.8) |
| Improves perseverance and resilience | 331 (82.8) | 69 (17.3) |
| Reduces stress and anxiety | 314 (78.5) | 86 (21.5) |
| Impairs focus and reduces concentration | 288 (72.0) | 112 (28.0) |
| Maintains emotional stability | 282 (70.5) | 118 (29.5) |
| **Knowledge of social benefits** | | |
| Increases the feeling of loneliness | 386 (96.5) | 14 (3.5) |
| Reduces interpersonal skills | 380 (95.0) | 20 (5.0) |
| Enhances teamwork and collaboration skills | 337 (84.3) | 63 (15.8) |
| Improves social connection and communication | 331 (82.8) | 69 (17.3) |
| Worsens leadership skills | 324 (81.0) | 76 (19.0) |

***multiple response questions, Cronbach's Alpha = 0.483**

Most respondents correctly identified mental sporting activities 306 (76.5%) and physical sporting activities 300 (75.0%). However, 94 (23.5%) and 100 (25.0%) of students respectively provided incorrect classifications.

Basketball was the most correctly identified as not being a mental sport by 352 respondents (88.0%), followed by swimming 338 (84.5%), while chess was correctly identified by 329 (82.3%) as being a mental sport. Fewer respondents correctly classified scrabble 289 (72.3%) and esports 223 (55.8%) as mental sporting activities.

With respect to knowledge of examples of physical sports, chess was the most correctly identified as not being a physical sport by 382 respondents (95.5%) followed by running 376 (94.0%), football 371 (92.8%), basketball 358 (89.5%) which were correctly classified as physical sports. Lesser figures were obtained for correct identification of scrabble, swimming and esports as physical sports or otherwise.

Less than half of respondents correctly identified vigorous intensity 177 (44.3%), moderate intensity 145 (36.3%), and low intensity 171 (42.8%) physical activities as types of physical sporting activities, indicating gaps in knowledge of types of physical sporting activities.

The most correctly identified example of vigorous intensity sports was football 213 (53.3%), while golf was correctly identified by 213 (53.3%) as not being a vigorous intensity sport. Basketball was recognized by 210 (52.5%) respondents as a vigorous intensity sport. Fewer respondents recognized table tennis 176 (44.0%), swimming 151 (37.8%), and volleyball 149 (37.3%) as not being vigorous intensity sports.

Regarding moderate intensity sports, football 213 (53.3%) and golf 213 (53.3%) were the most correctly identified as not being moderate intensity sports, followed by basketball 173 (43.3%), swimming 167 (41.8%). However, table tennis and volleyball were correctly identified as moderate intensity sports by only 148 (37.0%) and 111 (27.8%) respectively showing a lower level of knowledge regarding proper categorization of moderate intensity sports.

Concerning examples of low intensity sports, basketball 213 (53.3%) and football 213 (53.3%) were the most correctly identified as not being low intensity sports, and golf 213 (53.3%) was the most frequently identified as low intensity sports. Slightly lesser number of respondents correctly identified swimming 203 (50.8%), volleyball 191 (47.8%), and table tennis 143 (35.8%) as not being low intensity sports.

Regarding knowledge of intellectual benefits of sporting activities, the most correctly identified intellectual benefit was that sports improve multitasking abilities 351 (87.8%), followed by enhancement of memory and learning 338 (84.5%) and improvement in concentration and attention 324 (81.0%). Slightly fewer identified that sports does not reduce alertness and awakeness 316 (79.0%) while 309 (77.3%) and 287 (71.8%) correctly recognized problem-

solving and decision-making skills and improvement in academic performance as intellectual benefits respectively. However, fewer respondents 266 (66.5%) could correctly identify the role of sports in reducing age-related cognitive decline.

Concerning knowledge of physical benefits, the most correctly identified physical benefit was that sports help in weight management 358 (89.5%), followed by improvement in posture and flexibility 336 (84.0%) and support for the immune system 324 (81.0%). Slightly fewer respondents correctly identified that sports did not reduce the strength of muscles and bones 315 (78.8%) and that sports decreases the risk of hypertension and diabetes 314 (78.5%).

Regarding knowledge of psychological benefits, the most correctly identified psychological benefit was that sports do not reduce confidence and self-esteem 349 (87.3%), followed by recognition that it improves perseverance and resilience 331 (82.8%) and reduce stress and anxiety 314 (78.5%). Fewer respondents correctly identified that sports do not impair focus or reduce concentration 288 (72.0%) and 282 (70.5%) correctly recognized that sports maintain emotional stability.

With respect to knowledge of social benefits, the most correctly identified social benefit was that sports does not increase feeling of loneliness 386 (96.5%), followed by recognition that it does not reduce interpersonal skills 380 (95.0%). A majority also correctly identified that sports enhance teamwork and collaboration 337 (84.3%) and improve social connection and communication 331 (82.8%). Slightly fewer respondents recognized that sports do not worsen leadership skills 324 (81.0%).

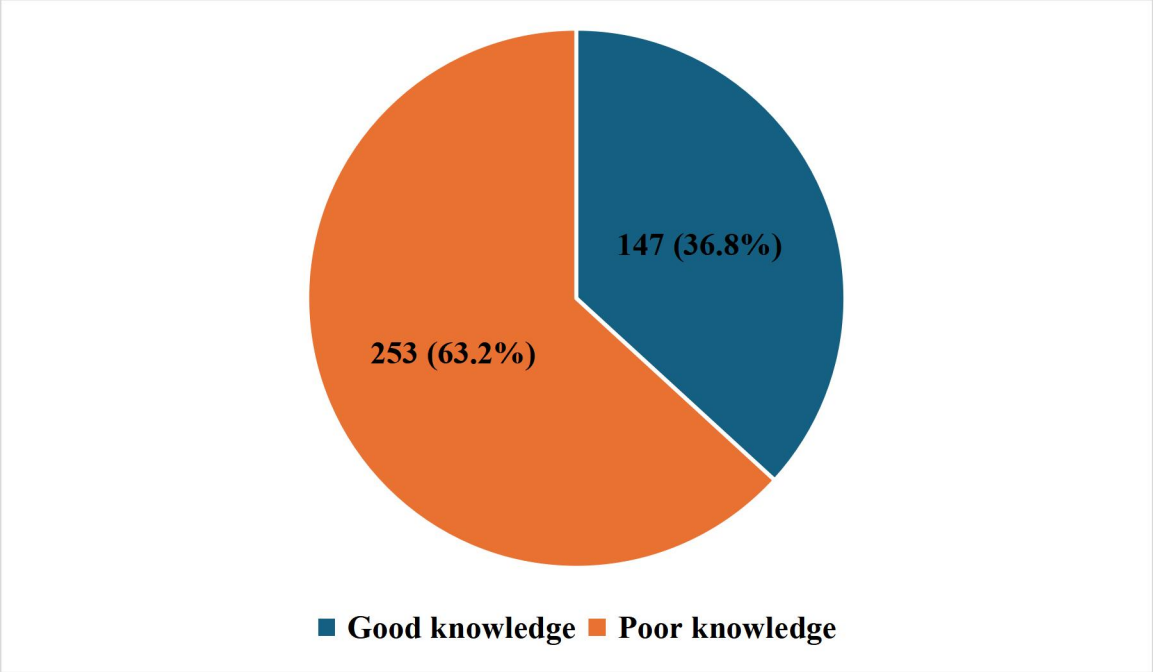


**FIGURE 2: LEVEL OF KNOWLEDGE OF SPORTING ACTIVITIES AMONG UNDERGRADUATE STUDENTS IN BENIN CITY, EDO STATE.**

In relation to knowledge of sporting activities, 147 (36.8%) and 253 (63.2%) of the respondents studied had good and poor knowledge respectively.

**Table 5: Factors associated with knowledge of sporting activities among undergraduates in Benin City, Edo State**

| Variables | Knowledge of sporting activities | | Test statistic ($\chi 2$) | p-value |
|---|---|---|---|---|
| | Good freq (%) | Poor freq (%) | | |
| **Age (years)** | | | | |
| <20 | 38 (28.8) | 94 (71.2) | #6.893 | **0.032** |
| 21 – 30 | 108 (40.4) | 159 (59.6) | | |
| >30 | 1 (100.0) | 0 (0) | | |
| **Sex** | | | | |
| Male | 78 (40.4) | 115 (59.6) | 2.155 | 0.142 |
| Female | 69 (33.3) | 138 (66.7) | | |
| **Ethnicity** | | | | |
| Edo Indigene | 39 (33.9) | 76 (66.1) | 0.559 | 0.455 |
| Non-Edo Indigene | 108 (37.9) | 177 (62.1) | | |
| **Religion** | | | | |
| Christianity | 140 (37.8) | 230 (62.2) | 2.512 | 0.113 |
| Others | 7 (23.3) | 23 (76.7) | | |
| **Marital status** | | | | |
| Ever married* | 12 (28.6) | 30 (71.4) | 1.350 | 0.245 |
| Never married** | 135 (37.7) | 223 (62.3) | | |
| **Institution** | | | | |
| UNIBEN | 127 (42.8) | 170 (57.2) | 19.443 | **< 0.001** |
| BIU | 11 (15.5) | 60 (84.5) | | |
| Wellspring | 9 (28.1) | 23 (71.9) | | |
| **Department** | | | | |
| Medical | 93 (36.0) | 165 (64.0) | 0.155 | 0.694 |
| Non-medical | 54 (38.0) | 88 (62.0) | | |
| **Level** | | | | |
| Junior level | 75 (33.8) | 147 (66.2) | 1.888 | 0.169 |
| Senior level | 72 (40.4) | 106 (59.6) | | |
| **Residence** | | | | |
| Campus | 79 (33.9) | 154 (66.1) | 1.943 | 0.163 |
| Off-campus*** | 68 (40.7) | 99 (59.3) | | |
| **Allowance** | | | | |
| ≤ ₦ 30,000 | 3 (100.0) | 0 (0) | #5.202 | **0.049** |
| > ₦ 30,000 | 144 (36.3) | 253 (63.7) | | |

UNIBEN = University of Benin, BIU = Benson Idahosa University, #Fisher Exact Test, *married, divorced, separated, widowed, **single, cohabiting, ***off-campus hostels, home

With respect to age, respondents aged 21–30 years had a higher level of knowledge 108 (40.4%) while those below 20 years had a lower level of knowledge 38 (28.8%). The respondent above

30 years showed a good knowledge of sporting activities. There was a statistically significant association between age and knowledge of sporting activities ($\chi^2 = 6.893$, p = **0.032**).

Regarding sex, a higher proportion of males 78 (40.4%) had good knowledge compared to females 69 (33.3%). However, this difference was not statistically significant ($\chi^2 = 2.155$, p = 0.142).

With respect to ethnicity, Edo indigenes had slightly better knowledge 39 (33.9%) than Non-Edo indigenes 108 (37.9%). However, this did not differ significantly ($\chi^2 = 0.559$, p = 0.455).

In terms of religion, Christians 140 (37.8%) had a higher level of knowledge compared to those of other religions 7 (23.3%). However, there was no significant association between religion and knowledge ($\chi^2 = 2.512$, p = 0.113).

Concerning marital status, respondents never married 135 (37.7%) had higher level of knowledge than their ever-married counterparts 12 (28.6%). However, marital status was not significantly associated with knowledge of sporting activities ($\chi^2 = 1.350$, p = 0.245).

In terms of institution, students from UNIBEN had better knowledge 127 (42.8%) than students from Wellspring 9 (28.1%) who in turn demonstrated higher level of knowledge than students in BIU 11 (15.5%), and institution was significantly associated with knowledge of sporting activities ($\chi^2 = 19.443$, p = **< 0.001**).

With respect to department of study, non-medical students 54 (38.0%) had slightly better knowledge than medical students 93 (36.0%). However, there was no significant association between department and knowledge ($\chi^2 = 0.155$, p = 0.694).

Regarding level of study, students in higher levels of study showed better knowledge 72 (40.4%) compared with students in lower levels 75 (33.8%). However, academic level was not significantly related to knowledge ($\chi^2 = 1.888$, p = 0.169).

Concerning residence, students living off-campus 68 (40.7%) had better knowledge than those in campus residences 79 (33.9%) but no significant relationship was found between place of residence and knowledge ($\chi^2 = 1.943$, $p = 0.163$).

With respect to allowance, all respondents 3 (100.0%) receiving ₦30,000 or less showed good knowledge while 144 (36.3%) among those receiving more than ₦30,000 demonstrated good knowledge of sporting activities. And there was a statistically significant association between monthly allowance and knowledge of sporting activities (Fisher's Exact = 5.202, $p =$ **0.049**).

**Table 6: Predictors of knowledge of sporting activities among undergraduates in Benin City, Edo State**

| Variables | β | Odds Ratio | 95% CI For OR | | p-value |
|---|---|---|---|---|---|
| | | | Lower | Upper | |
| **Age (years)** | 0.756 | 2.130 | 1.191 | 3.808 | **0.011** |
| **Sex** | | | | | |
| Male | 0.350 | 1.419 | 0.932 | 2.162 | 0.103 |
| Female* | | 1 | | | |
| **Ethnicity** | | | | | |
| Edo Indigene | -0.154 | 0.857 | 0.533 | 1.379 | 0.525 |
| Non-Edo Indigene* | | 1 | | | |
| **Religion** | | | | | |
| Christianity | 0.677 | 1.968 | 0.810 | 4.778 | 0.135 |
| Others* | | 1 | | | |
| **Marital status** | | | | | |
| Ever married | -0.627 | 0.534 | 0.255 | 1.121 | 0.098 |
| Never married* | | 1 | | | |
| **Institution** | | | | | |
| UNIBEN | 0.647 | 1.909 | 0.854 | 4.267 | 0.115 |
| BIU | -0.758 | 0.469 | 0.172 | 1.278 | 0.139 |
| Wellspring* | | 1 | | | |
| **Department** | | | | | |
| Medical | -0.188 | 0.829 | 0.531 | 1.294 | 0.408 |
| Non-medical* | | 1 | | | |
| **Level** | | | | | |
| Junior level | 0.286 | 0.751 | 0.499 | 1.130 | 0.170 |
| Senior level* | | 1 | | | |
| **Residence** | | | | | |
| Campus | -0.319 | 0.727 | 0.470 | 1.123 | 0.151 |
| Off-Campus* | | 1 | | | |
| **Allowance** | | | | | |
| ≤ ₦ 30,000 | 21.680 | 2603069916 | 0.000 | | 0.999 |
| > ₦ 30,000* | | 1 | | | |

*reference category ($R^2$ = 4.8 – 6.7%, CI = Confidence Interval, OR = Odds Ratio)

For every one year increase in age, respondents were 2.13 times more likely to have good knowledge of sporting activities (OR = 2.130, 95% CI = 1.191–3.808, p = **0.011**). And this was statistically significant.

Males were 1.42 times more likely to have good knowledge of sporting activities than females (OR = 1.419, 95% CI = 0.932–2.162, p = 0.103) but this was not statistically significant.

Edo indigenes were 1.2 times less likely to have good knowledge of sporting activities non-Edo indigenes (OR = 0.857, 95% CI: 0.533–1.379, p = 0.525), however, ethnicity was not a significant predictor.

Christians were almost two times more likely to have good knowledge of sporting activities than those in other religions (OR = 1.968, 95% CI: 0.810–4.778, p = 0.135), but this was not statistically significant.

Respondents that have ever been married were 1.9 times less likely to have good knowledge of sporting activities than those who have never been married (OR = 0.534, 95% CI = 0.255–1.121, p = 0.098), though this was not statistically significant.

In terms of institution, undergraduates from UNIBEN were 1.9 times more likely to have good knowledge of sports than those from Wellspring University (OR = 1.909, 95% CI = 0.854-4.267, p = 0.115), this was however, not statistically significant. On the other hand, students from BIU were 2.1 times less likely to have good knowledge of sporting activities than those from Wellspring University (OR = 0.469, 95% CI = 0.172-1.278, p = 0.139). This association was also not statistically significant.

Medical students were 1.2 times less likely to have good knowledge of sporting activities than non-medical students (OR = 0.829, 95% CI = 0.531–1.294, p = 0.408). However, this was not statistically significant.

Students in lower levels of study were 1.33 times less likely to have good knowledge of sporting activities compared to those in higher levels (OR = 0.751, 95% CI = 0.499-1.130, p = 0.170). However, this was not statistically significant.

Respondents staying on campus were 1.4 times less likely to have good knowledge of sporting activities compared to off-campus students (OR = 0.727, 95% CI = 0.470–1.123, p = 0.151). this was however not statistically significant.

Allowance yielded an extremely large odds ratio (OR ≈ $2.6 \times 10^9$, p = 0.999), which is likely due to sparse data, (only 3 cases in this category), and is therefore not interpretable.

## SECTION C:

## ATTITUDE TOWARDS SPORTING ACTIVITIES AMONG UNDERGRADUATES IN BENIN CITY

**Table 7: Attitudinal response towards sporting activities among undergraduates in Benin City, Edo State**

| Variables | Strongly disagree freq (%) | Disagree freq (%) | Neutral freq(%) | Agree freq(%) | Strongly agree freq(%) |
|---|---|---|---|---|---|
| **Engagement in sporting activities is loveable** | 0 (0) | 1 (0.3) | 14 (3.5) | 183 (45.8) | 202 (50.5) |
| **Sports are a significant aspect of a student's life** | 4 (1.0) | 10 (2.5) | 112 (28.0) | 149 (37.3) | 125 (31.3) |
| **Participation in sports during free time should be anticipated** | 19 (2.5) | 27 (6.8) | 53 (13.3) | 162 (40.5) | 148 (37.0) |
| **Use of sporting materials are enjoyable** | 0 (0) | 9 (2.3) | 86 (21.5) | 172 (43.0) | 133 (33.3) |
| **Sporting activities are inclusive for all** | 37 (9.25) | 50 (12.5) | 42 (10.5) | 124 (31.0) | 147 (36.8) |
| **Sporting and academic learning are equally important** | 31 (7.8) | 29 (7.2) | 61 (15.3) | 126 (31.5) | 153 (38.3) |
| **Participation in sports should occur even outside tertiary institutions** | 0 (0) | 26 (6.5) | 50 (12.5) | 194 (48.5) | 130 (32.5) |
| **Sports should be prioritized over other extracurricular activities** | 30 (7.5) | 25 (6.3) | 45 (11.3) | 125 (31.3) | 175 (43.8) |
| **Physical health can be promoted through sporting activities** | 1 (0.3) | 2 (0.5) | 96 (24.0) | 157 (39.3) | 144 (36.0) |
| **Willingness to recommend participation in sports to friends and other significant others** | 4 (1.0) | 25 (6.3) | 65 (16.3) | 142 (35.5) | 164 (41.0) |

**Cronbach's Alpha = 0.890**

Students generally had a positive attitude to sporting activities 292 (73.0%).

Majority of students, 202 (50.5%) strongly agreed and 183 (45.8%) agreed that engagement in sporting activities is loveable while only 1 (0.3%) respondent disagreed.

A large proportion of students, 125 (31.3%) strongly agreed and 149 (37.3%) agreed that sports is a significant aspect of student life. However, a sizable proportion 112 (28.0%) remained neutral, while 14 (3.5%) expressed disagreement.

On the statement that sports during free time should be anticipated, the majority either strongly agreed 148 (37.0%) or agreed 162 (40.5%) while 19 (2.5%) strongly disagreed.

Most respondents, 133 (33.3%) strongly agreed and 172 (43.0%) agreed that use of sporting materials is enjoyable while 9 (2.3%) disagreed.

Regarding inclusiveness of sporting activities, 147 (36.8%) strongly agreed that sporting activities are inclusive for all while 37 (9.25%) strongly disagreed and 42 (10.5%) were neutral.

Concerning sports and academic learning being equally important, 153 (38.3%) strongly agreed while 61 (15.3%) were neutral, however 31 (7.8%) strongly disagreed.

The notion that sports participation should occur even outside tertiary institutions was widely supported, with 130 (32.5%) strongly agreeing and 194 (48.5%) agreeing, while 26 (6.5%) disagreed and none strongly disagreed.

Most respondents,175 (43.8%) strongly agreed and 125 (31.3%) agreed that sports should be prioritized over other extracurricular activities while disagreed 55 (13.8%).

Concerning promotion of physical health through sporting activities, 144 (36.0%) strongly agreed and 157 (39.3%) agreed while 3 (0.8%) disagreed.

Regarding willingness to recommend sports to friends and significant others, 164 (41.0%) strongly agreed and 142 (35.5%) agreed. However, 29 (7.3%) expressed disagreement while 65 (16.3%) were neutral.

**Table 8: Appropriateness to Attitudinal Questions among undergraduates in Benin City, Edo State**

| Variables | Response (n=400) | |
|---|---|---|
| | Appropriate freq (%) | Inappropriate freq (%) |
| **Engagement in sporting activities is loveable** | 385 (96.3) | 15 (3.8) |
| **Sports are a significant aspect of a student's life** | 274 (68.6) | 126 (31.5) |
| **Participation in sports during free time should be anticipated** | 310 (77.5) | 90 (22.5) |
| **Use of sporting materials are enjoyable** | 305 (76.3) | 95 (23.8) |
| **Sporting activities are inclusive for all** | 271 (67.8) | 129 (32.5) |
| **Sporting and academic learning are equally important** | 165 (41.3) | 234 (58.5) |
| **Participation in sports should occur even outside tertiary institutions** | 324 (81.0) | 76 (19.0) |
| **Sports should be prioritized over other extracurricular activities** | 300 (75.0) | 100 (25.0) |
| **Physical health can be promoted through sporting activities** | 301 (75.3) | 99 (24.8) |
| **Willingness to recommend participation in sports to friends and other significant others** | 306 (76.5) | 94 (23.6) |

**Cronbach's Alpha = 0.890**

A large majority of respondents 385 (96.3%) agreed that engagement in sporting activities is loveable, while only 15 (3.8%) disagreed. Similarly, 274 (68.6%) recognized sports as a significant aspect of student life while 126 (31.5%) did not share this view. Anticipation of participating in sports during free time was affirmed by 310 (77.5%) respondents, compared to 90 (22.5%) who were less enthusiastic. Likewise, 305 (76.3%) found the use of sporting materials enjoyable, while 95 (23.8%) did not.

Regarding inclusiveness, 271 (67.8%) felt that sporting activities are inclusive for all, though 129 (32.5%) disagreed. Fewer respondents believed that sports and academics hold equal importance, with only 165 (41.3%) affirming this compared to 234 (58.5%) who did not. Participation in sports beyond tertiary institutions was strongly supported by 324 (81.0%) students, while 76 (19.0%) opposed this view.

In terms of prioritization, 300 (75.0%) agreed that sports should take precedence over other extracurricular activities, while 100 (25.0%) disagreed. A similar proportion, 301 (75.3%), affirmed that sporting activities promote physical health, with 99 (24.8%) unconvinced. Regarding willingness to recommend sports participation to friends and other significant others, 306 (76.5%) indicated willingness while 94 (23.6%) were unwilling to do so.

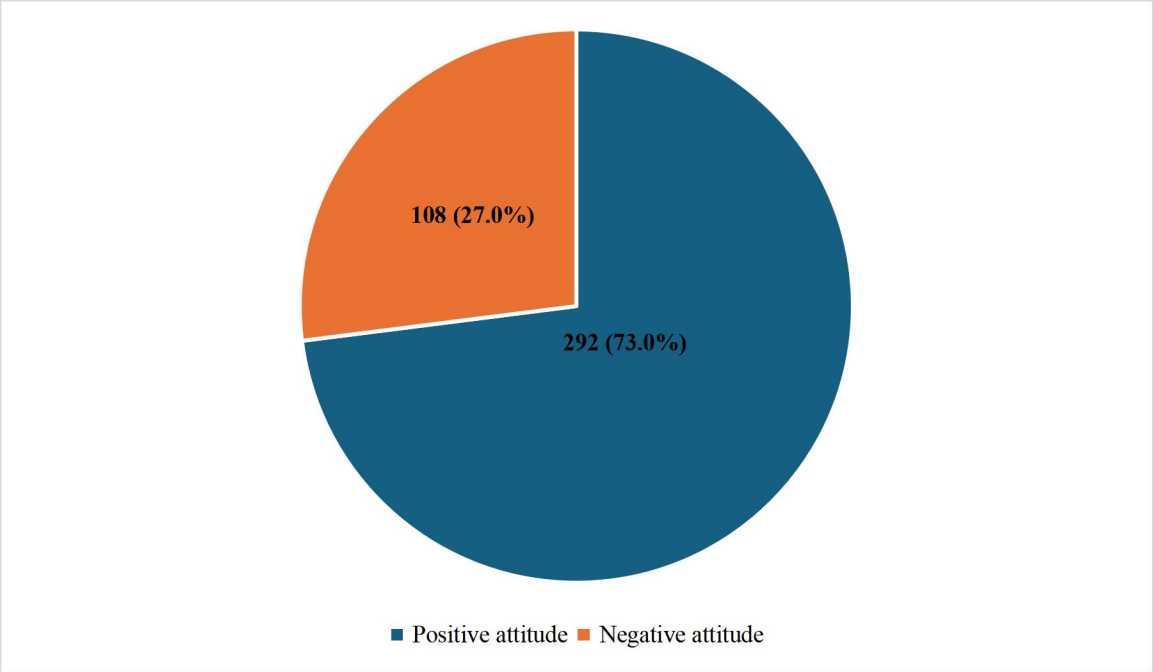


**FIGURE 3: ATTITUDE TOWARDS SPORTING ACTIVITIES AMONG UNDERGRADUATE STUDENTS IN BENIN CITY, EDO STATE**

In relation to attitude towards sporting activities, 292 (73.0%) and 108 (27.0%) of the respondents studied had positive and negative attitudes respectively.

**Table 9: Factors associated with Attitude towards sporting activities among undergraduates in Benin City, Edo State**

| Variables | Attitude towards sporting activities | | Test statistic ($\chi 2$) | p-value |
|---|---|---|---|---|
| | Positive freq (%) | Negative freq (%) | | |
| **Age group** | | | | |
| <20 | 80 (60.6) | 52 (39.4) | 1.616 | 0.446 |
| 21 – 30 | 156 (58.4) | 111 (41.6) | | |
| >30 | 0 (0) | 1 (100.0) | | |
| **Sex** | | | | |
| Male | 109 (56.5) | 84 (43.5) | 0.982 | 0.322 |
| Female | 127 (61.4) | 80 (38.6) | | |
| **Ethnicity** | | | | |
| Edo Indigene | 69 (60.0) | 46 (40.0) | 0.067 | 0.796 |
| Non-Edo Indigene | 167 (58.6) | 118 (41.4) | | |
| **Religion** | | | | |
| Christianity | 224 (60.5) | 146 (39.5) | 4.840 | **0.028** |
| Others | 12 (40.0) | 18 (60.0) | | |
| **Marital status** | | | | |
| Ever married* | 25 (59.5) | 17 (40.5) | 0.005 | 0.942 |
| Never married** | 211 (58.9) | 147 (41.1) | | |
| **Institution** | | | | |
| UNIBEN | 184 (62.0) | 113 (38) | 10.559 | **0.005** |
| BIU | 30 (42.3) | 41 (57.7) | | |
| Wellspring | 22 (68.8) | 10 (31.3) | | |
| **Department** | | | | |
| Medical | 144 (55.8) | 114 (44.2) | 3.050 | 0.081 |
| Non-medical | 92 (64.8) | 50 (35.2) | | |
| **Level** | | | | |
| Junior level | 128 (57.7) | 94 (42.3) | 0.372 | 0.542 |
| Senior level | 108 (60.7) | 70 (39.3) | | |
| **Residence** | | | | |
| Campus | 136 (58.4) | 97 (41.6) | 0.092 | 0.762 |
| Off-Campus*** | 100 (59.9) | 67 (40.1) | | |
| **Income** | | | | |
| ≤ ₦ 30,000 | 1 (33.3) | 2 (66.7) | #0.823 | 0.570 |
| > ₦ 30,000 | 235 (59.2) | 162 (40.8) | | |
| **Level of knowledge** | | | | |
| Good | 94 (63.9) | 53 (36.1) | 2.350 | 0.125 |
| Poor | 142 (56.1) | 111 (43.9) | | |

#Fisher Exact Test, *married, divorced, separated, widowed, **single, cohabiting, ***off-campus hostels, home

Among students younger than 20 years, 80 (60.6%) had a positive attitude compared to 156 (58.4%) in the 21–30 age group, while the single respondent older than 30 years showed a negative attitude 1 (100.0%). However, age was not significantly associated with attitude towards sporting activities ($\chi^2 = 1.616$, $p = 0.446$).

Sex was also not significantly associated with attitude ($p = 0.322$), with 109 (56.5%) of males and 127 (61.4%) of females showing positive attitudes.

Ethnicity showed no significant relationship ($\chi^2 = 0.067$, $p = 0.796$). Positive attitude was reported by 69 (60.0%) Edo indigenes compared to 167 (58.6%) non-Edo indigenes. In contrast, religion was significantly associated with attitude ($\chi^2 = 4.840$, $p =$ **0.028**), and among Christians, 224 (60.5%) reported positive attitudes, while only 12 (40.0%) of respondents from other religions did so.

Marital status showed no significant association ($p = 0.942$), with 25 (59.5%) ever-married and 211 (58.9%) never-married respondents reporting positivity.

In terms of institution, undergraduates from Wellspring had the most positive attitude 22 (68.8%) while students from BIU had the least positive attitude 30 (42.3%) towards sporting activities. This association was statistically significant (**p = 0.005**).

With respect to departments, 92 (64.8%) of non-medical students had positive attitudes compared to 144 (55.8%) medical students, this was however not statistically significant ($\chi^2 = 3.050$, $p = 0.081$).

Level of study was not statistically significant ($p = 0.542$) as positive attitudes were seen in 128 (57.7%) of junior level and 108 (60.7%) of senior level students. Residence also showed no significant relationship ($p = 0.762$), with 136 (58.4%) of on-campus students and 100 (59.9%) of off-campus students reporting positive attitudes.

Students with allowances above ₦30,000 had more positive attitude 235 (59.2%) compared to those with allowances of ₦30,000 or less 1 (33.3%). Allowance was however, not significantly associated with attitude ($p = 0.570$).

Students with good level of knowledge had more positive attitude 94 (63.9%) compared to those with poor level of knowledge 142 (56.1%), this association was, however, not statistically significant ($p = 0.125$).

**Table 10: Predictors of positive attitude towards sporting activities among undergraduates in Benin City, Edo State**

| Variables | B | Odds Ratio | 95% CI For OR | | p-value |
|---|---|---|---|---|---|
| | | | Lower | Upper | |
| **Age (years)** | -0.270 | 0.763 | 0.438 | 1.329 | 0.340 |
| **Sex** | | | | | |
| Male | -0.243 | 0.784 | 0.521 | 1.181 | 0.244 |
| Female* | | 1 | | | |
| **Ethnicity** | | | | | |
| Edo Indigene | 0.057 | 1.058 | 0.671 | 1.670 | 0.807 |
| Non-Edo Indigene* | | 1 | | | |
| **Religion** | | | | | |
| Christian | 0.839 | 2.315 | 1.072 | 4.999 | **0.033** |
| Others* | | 1 | | | |
| **Marital status** | | | | | |
| Ever married | 0.015 | 1.015 | 0.528 | 1.953 | 0.963 |
| Never married* | | 1 | | | |
| **Institution** | | | | | |
| UNIBEN | -0.301 | 0.740 | 0.338 | 1.620 | 0.452 |
| BIU | -1.101 | 0.333 | 0.137 | 0.805 | **0.015** |
| Wellspring* | | 1 | | | |
| **Department** | | | | | |
| Medical | -0.367 | 0.693 | 0.446 | 1.075 | 0.102 |
| Non-medical* | | 1 | | | |
| **Level** | | | | | |
| Junior level | -0.337 | 0.714 | 0.424 | 1.021 | 0.204 |
| Senior level* | | 1 | | | |
| **Residence** | | | | | |
| Campus | -0.062 | 0.940 | 0.626 | 1.411 | 0.766 |
| Off-Campus* | | 1 | | | |
| **Allowance** | | | | | |
| ≤ ₦ 30,000 | -1.221 | 0.295 | 0.026 | 3.374 | 0.326 |
| > ₦ 30,000* | | 1 | | | |
| **Level of knowledge** | | | | | |
| Good | 0.327 | 1.4 | 0.912 | 2.107 | 0.126 |
| Poor* | | 1 | | | |

*reference category ($R^2$ = 2.8 – 3.8%, CI = Confidence Interval, OR = Odds Ratio)

For every one-year increase in age, respondents were 1.3 times less likely to have a positive attitude (95% CI = 0.438–1.329, p = 0.340), and this was not statistically significant.

Males were 1.3 times less likely to have a positive attitude compared to females (95% CI = 0.521–1.181, p = 0.244), however, this was not statistically significant.

With respect to ethnicity, Edo indigenes were 1.1 times more likely to have a positive attitude compared to non-Edo indigenes (95% CI = 0.671–1.670, p = 0.807), this was not statistically significant.

Christians were 2.3 times more likely to have a positive attitude compared to those of other religions (95% CI = 1.072–4.999, p = **0.033**), and this was statistically significant.

Respondents who were ever married were 1.02 times more likely to have a positive attitude compared to those who were never married (OR = 1.015, 95% CI = 0.528-1.953, p = 0.963), and this was not statistically significant.

With respect to institution, students from UNIBEN were 1.4 times less likely to have a positive attitude compared to those from Wellspring (OR = 0.740, 95% CI = 0.338-1.620, p = 0.452). This was however not statistically significant. Likewise, students from BIU were 3 times less likely to have a positive attitude compared to those from Wellspring (OR = 0.333, 95% CI = 0.137-0.805, **p = 0.015**), this was statistically significant.

Students in medical departments were 1.4 times less likely to have a positive attitude compared to those in non-medical departments (95% CI = 0.446–1.075, p = 0.102), but this was not statistically significant.

By level of study, students in lower levels of study were 1.4 times less likely to have a positive attitude compared to students in higher levels (95% CI = 0.424–1.021, p = 0.204), and this was not statistically significant.

Students residing on campus were 1.1 times less likely to have a positive attitude compared to those living off-campus (OR = 0.940, 95% CI = 0.626-1.411, p = 0.766), however, this was not statistically significant.

Respondents who received ₦30,000 allowance or less were 3.4 times less likely to have a positive attitude compared to those receiving more than ₦30,000 (95% CI = 0.026–3.374, p = 0.326), however, this was not statistically significant.

Students with good knowledge were 1.4 times more likely to have positive attitude compared to those with poor knowledge (OR = 1.386, 95% CI = 0.912-2.107, p = 0.126), this was however, not statistically significant.

## SECTION D:

## PREVALENCE AND LEVEL OF PARTICIPATION IN SPORTING ACTIVITIES AMONG UNDERGRADUATES IN BENIN CITY

**Table 11: Prevalence and level of participation in sporting activities among undergraduates in Benin City, Edo State**

| Variables | Frequency (n=400) | Percent |
|---|---|---|
| **Ever participated in sporting activities** | 275 | 68.8 |
| **Type of sport (n=275)*** | | |
| Mental | 53 | 19.3 |
| Physical | 84 | 30.5 |
| Both | 138 | 50.2 |
| **Specific sports played (n=275)*** | | |
| Running | 137 | 49.8 |
| Football | 126 | 45.8 |
| High jump | 113 | 41.1 |
| Basketball | 100 | 36.4 |
| Tennis | 93 | 33.8 |
| Long jump | 83 | 30.2 |
| Volleyball | 75 | 27.3 |
| Chess | 56 | 20.4 |
| Badminton | 52 | 18.9 |
| Swimming | 46 | 16.7 |
| Scrabble | 36 | 13.1 |
| Handball | 13 | 4.7 |
| **Frequency of participation per week (n=275)** | | |
| Once | 94 | 34.2 |
| Twice | 65 | 23.6 |
| Thrice | 70 | 25.5 |
| 4 times | 34 | 12.4 |
| 5 times | 11 | 4.0 |
| 6 times | 1 | 0.3 |
| **Reason for participation in sports (n=275)** | | |
| Leisurely | 207 | 75.3 |
| Professionally | 68 | 24.7 |
| **Makes use of sports and leisure facilities (n=275)** | 144 | 56.0 |
| **Recent participation in past one year (n=275)** | 167 | 65.0 |
| **Type of sport (n=167)** | | |
| Physical | 82 | 49.1 |
| Mental | 33 | 19.8 |
| Both | 52 | 31.1 |
| **Specific sport played (n=167)*** | | |
| Football | 148 | 88.6 |
| Running | 133 | 79.6 |
| Tennis | 119 | 71.3 |
| Basketball | 114 | 68.3 |
| High jump | 94 | 56.3 |
| Badminton | 93 | 55.7 |
| Volleyball | 92 | 55.1 |
| Long jump | 88 | 52.7 |
| Chess | 71 | 42.5 |
| Swimming | 66 | 39.5 |
| Scrabble | 48 | 28.7 |
| Handball | 13 | 7.8 |

Out of 400 respondents, 275 (68.8%) had ever participated in sporting activities, while 125 (31.2%) had never participated.

Among participants, 138 (50.2%) engaged in both physical and mental sports, 84 (30.5%) in physical sports only, and 53 (19.3%) in mental sports only.

The most common sports were running 137 (49.8%), football 126 (45.8%), and high jump 113 (41.1%). Other activities included basketball 100 (36.4%), tennis 93 (33.8%), long jump 83 (30.2%), volleyball 75 (27.3%), chess 56 (20.4%), badminton 52 (18.9%), swimming 46 (16.7%), scrabble 36 (13.1%) and handball 13 (4.7%).

Regarding frequency of participation per week, 94 (34.2%) took part once weekly, 65 (23.6%) twice weekly, 70 (25.5%) thrice weekly and 34 (12.4%) four times weekly. A smaller number participated five times 11 (4.0%) or six times 1 (0.3%) weekly.

Concerning the reason for participation, most students engaged in sports leisurely 207 (75.3%), while 68 (24.7%) did so professionally.

Just over half (144; 56.0%) reported using sports and leisure facilities of their respective institution.

With respect to participation in the past one year, 167 (65.0%) reported active participation within the past one year. Within this group, 82 (49.1%) engaged in physical sports, 33 (19.8%) in mental sports, and 52 (31.1%) in both. And the most frequently played sports were football 148 (88.6%) and running 133 (79.6%), followed by tennis 119 (71.3%), basketball 114 (68.3%), high jump 94 (56.3%), badminton 93 (55.7%), volleyball 92 (55.1%) and long jump 88 (52.7%). Less common activities were chess 71 (42.5%), swimming 66 (39.5%), scrabble 48 (28.7%) and handball 13 (7.8%).

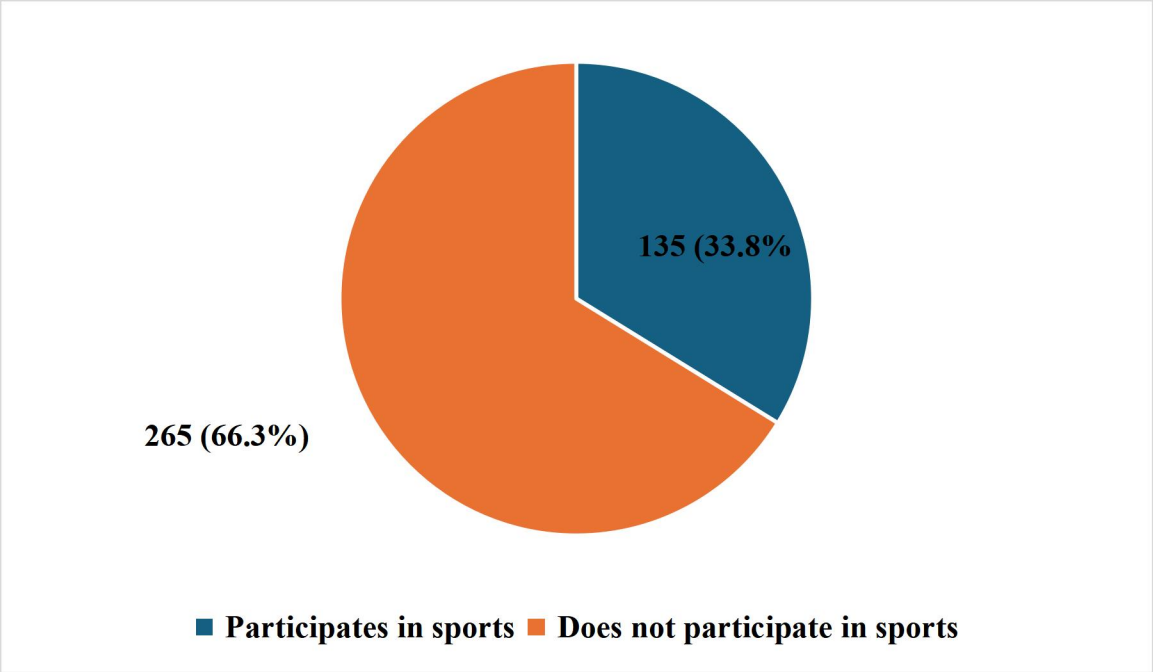


**FIGURE 4: PREVALENCE OF SPORTING ACTIVITIES AMONG UNDERGRADUATE STUDENTS IN BENIN CITY, EDO STATE.**

In relation to prevalence of sporting activities, 135 (33.8%) participated in sporting activities and 265 (66.3%) of the respondent did not participate in sporting activities.

**Table 12: Factors associated with prevalence of sporting activities among undergraduates in Benin City, Edo State**

| Variables | Prevalence of sporting activities | | Test statistic ($\chi 2$) | p-value |
|---|---|---|---|---|
| | Yes freq (%) | No freq (%) | | |
| **Age (years)** | | | | |
| <20 | 92 (69.7) | 40 (30.3) | #0.552 | 0.759 |
| 21 – 30 | 182 (68.2) | 85 (31.8) | | |
| >30 | 1 (100.0) | 0 (0) | | |
| **Sex** | | | | |
| Male | 142 (73.6) | 51 (26.4) | 4.041 | **0.044** |
| Female | 133 (64.3) | 74 (35.7) | | |
| **Ethnicity** | | | | |
| Edo Indigene | 82 (71.3) | 33 (28.7) | 0.490 | 0.484 |
| Non-Edo Indigene | 193 (67.7) | 92 (32.3) | | |
| **Religion** | | | | |
| Christian | 260 (70.3) | 110 (29.7) | 5.307 | **0.021** |
| Others | 15 (50.0) | 15 (50.0) | | |
| **Marital status** | | | | |
| Ever married* | 28 (66.7) | 14 (33.3) | 0.095 | 0.758 |
| Never married** | 247 (69.0) | 111 (31.0) | | |
| **Institution** | | | | |
| UNIBEN | 94 (31.6) | 203 (68.4) | 2.386 | 0.303 |
| BIU | 29 (40.8) | 42 (59.2) | | |
| Wellspring | 12 (37.5) | 20 (62.5) | | |
| **Department** | | | | |
| Medical | 189 (73.3) | 69 (26.7) | 6.868 | **0.009** |
| Non-medical | 86 (60.6) | 56 (39.4) | | |
| **Level** | | | | |
| Junior level | 149 (67.1) | 73 (32.9) | 0.619 | 0.431 |
| Senior level | 126 (70.8) | 52 (29.2) | | |
| **Residence** | | | | |
| Campus | 160 (68.7) | 73 (31.3) | 0.002 | 0.967 |
| Off-Campus*** | 115 (68.9) | 52 (31.1) | | |
| **Allowance** | | | | |
| ≤ ₦ 30,000 | 3 (100.0) | 0 (0) | #1.374 | 0.555 |
| > ₦ 30,000 | 272 (68.5) | 125 (31.3) | | |
| **Knowledge** | | | | |
| Good | 43 (29.3) | 104 (70.7) | 2.103 | 0.147 |
| Poor | 92 (36.4) | 161 (63.6) | | |
| **Attitude** | | | | |
| Positive | 85 (36.0) | 151 (64.0) | 1.323 | 0.250 |
| Negative | 50 (30.5) | 114 (69.5) | | |

#Fisher Exact Test, *married, divorced, separated, widowed, **single, cohabiting, ***off-campus hostels, home

Among respondents, students aged less than 20 years, 92 (69.7%) participated in sporting activities compared to 182 (68.2%) of those between aged 21 and 30 years and 1 (100.0%) of those above 30 years. However, this association was not statistically significant ($\chi^2 = 0.552$, p = 0.759).

Males were more likely to participate in sports 142 (73.6%) than females 133 (64.3%). This association was statistically significant. ($\chi^2 = 4.041$, p = **0.044**).

Edo indigenes participated more in sporting activities 82 (71.3%) compared to non-Edo indigenes 193 (67.7%). This association was not statistically significant ($\chi^2 = 0.490$, p = 0.484).

Christians participated more in sports 260 (70.3%) compared to respondents of other religions 15 (50.0%). This association was statistically significant ($\chi^2 = 5.307$, p = **0.021**).

Regarding marital status, never married respondents participated more in sports 247 (69.0%) compared to ever married respondents 28 (66.7%). This association was not statistically significant. ($\chi^2 = 0.095$, p = 0.758).

Concerning institution, students from UNIBEN had the lowest level of participation 94 (31.6%) while students from BIU had the highest level of participation 29 (40.8%), the association was, however, not statistically significant ($\chi^2 = 2.386$, p = 0.303).

Medical students had higher participation in sports 189 (73.3%) compared to non-medical students 86 (60.6%). This association was statistically significant ($\chi^2 = 6.868$, **p = 0.009**).

With respect to level of study, students in lower levels of study participated less compared to students in lower levels of study 126 (70.8%). This association was not statistically significant ($\chi^2 = 0.619$, p = 0.431).

Students residing within campus and off-campus residents had similar participation rates 160 (68.7%) and 115 (68.9%) and this association was not statistically significant ($\chi^2 = 0.002$, $p = 0.967$).

Concerning allowance, respondents receiving ₦30,000 or less all participated in sporting activities 3 (100.0%), while 272 (68.5%) of those receiving more than ₦30,000 participated in sporting activities. This association was not statistically significant ($\chi^2 = 1.374$, $p = 0.555$).

Regarding knowledge, students with good knowledge participated in sports less 43 (29.3%) than those with poor level of knowledge 92 (39.4%). This association was however not statistically significant ($\chi^2 = 2.103$, $p = 0.147$).

With respect to attitude, students with positive attitude participated more in sports 85 (36.0%) than those with negative attitude 50 (30.5%). This association was, however, not statistically significant ($\chi^2 = 1.323$, $p = 0.250$).

**Table 13: Predictors of participation in sporting activities among undergraduates in Benin City, Edo State**

| Variables | B | Odds Ratio | 95% CI For OR | | p-value |
|---|---|---|---|---|---|
| | | | Lower | Upper | |
| **Age (years)** | -0.339 | 0.713 | 0.394 | 1.288 | 0.262 |
| **Sex** | | | | | |
| Male | 0.467 | 1.595 | 1.027 | 2.476 | **0.038** |
| Female* | | 1 | | | |
| **Ethnicity** | | | | | |
| Edo Indigene | 0.020 | 1.021 | 0.623 | 1.672 | 0.935 |
| Non-Edo Indigene* | | 1 | | | |
| **Religion** | | | | | |
| Christian | 0.853 | 2.346 | 1.091 | 5.041 | **0.029** |
| Others* | | 1 | | | |
| **Marital status** | | | | | |
| Ever married | -0.401 | 0.670 | 0.325 | 1.378 | 0.276 |
| Never married* | | 1 | | | |
| **Institution** | | | | | |
| UNIBEN | -0.259 | 0.772 | 0.362 | 1.644 | 0.502 |
| BIU | 0.140 | 1.151 | 0.488 | 1.151 | 0.748 |
| Wellspring* | | 1 | | | |
| **Department** | | | | | |
| Medical | 0.619 | 1.856 | 1.177 | 2.929 | **0.008** |
| Non-medical* | | 1 | | | |
| **Level** | | | | | |
| Junior level | -0.289 | 0.749 | 0.432 | 1.298 | 0.303 |
| Senior level* | | 1 | | | |
| **Residence** | | | | | |
| Campus | -0.040 | 0.961 | 0.611 | 1.513 | 0.864 |
| Off-Campus* | | 1 | | | |
| **Allowance** | | | | | |
| ≤ ₦ 30,000 | 20.282 | 643501445.1 | 0.000 | | 0.999 |
| > ₦ 30,000* | | 1 | | | |
| **Knowledge** | | | | | |
| Good | -0.324 | 0.724 | 0.467 | 1.121 | 0.148 |
| Poor* | | 1 | | | |
| **Attitude** | | | | | |
| Positive | 0.250 | 1.283 | 0.839 | 1.964 | 0.251 |
| Negative* | | 1 | | | |

*reference category ($R^2$ = 4.8 – 6.7%, CI = Confidence Interval, OR = Odds Ratio)

For every one-year increase in age, respondents were 1.4 times less likely to participate in sporting activities (OR = 0.713, 95% CI: 0.394–1.288, p = 0.262). However, age was not a significant predictor of participation in sporting activities.

Males were 1.6 times more likely to participate in sporting activities compared with females (OR = 1.595, 95% CI: 1.027–2.476, p = **0.038**). And this was statistically significant.

Edo indigenes were slightly more likely to participate than non-Edo indigenes, but the association was not significant (OR = 1.021, 95% CI: 0.623–1.672, p = 0.935).

Christians were 2.3 times more than twice as likely as respondents of other religions to participate in sporting activities, and this association was statistically significant (OR = 2.346, 95% CI: 1.091–5.041, p = **0.029**).

Respondents who had ever been married were 1.5 times less likely to participate in sports compared to those who had never been married (OR = 0.760, 95% CI: 0.325–1.378, p = 0.276).

With respect to institution, students from UNIBEN were 1.3 times less likely to participate in sports than those from Wellspring (OR = 0.772, 95% CI = 0.362-1.644, p = 0.502), this was however, not statistically significant. On the other hand, students from BIU were 1.2 times more likely to participate in sports than students from Wellspring (OR = 1.151, 95% CI = 0.488-2.714, p = 0.748), this was however, not statistically significant.

Students in medical departments were nearly twice as likely to participate in sporting activities compared with their non-medical counterparts, and this was statistically significant (OR = 1.856, 95% CI: 1.177–2.929, **p = 0.008**).

Students in lower levels of study were 1.3 times less likely to participate compared to students in higher levels, though this difference was not significant (OR = 0.749, 95% CI: 0.432–1.298, p = 0.303).

Campus residence was not significantly associated with participation (OR = 0.961, 95% CI: 0.611–1.513, p = 0.864).

With respect to allowance, students earning ₦30,000 or less showed an inflated odds ratio (OR = 643,501,445.1) and this result might not reliable due to wide confidence limits and lack of statistical significance (p = 0.999).

Students with good knowledge were 1.4 times less likely to participate in sports (OR = 0.724, 95% CI = 0.467-1.121, p = 0.148), this was, however, not statistically significant.

Students with positive attitude towards sports were 1.3 times more likely to participate in sports (OR = 1.283, 95% CI = 0.839-1.964, p = 0.251). However, this was not statistically significant.

## SECTION E:

## DETERMINANTS OF PARTICIPATION IN SPORTING ACTIVITIES AMONG UNDERGRADUATES IN BENIN CITY

**Table 14: Determinants of participation in sporting activities among undergraduates in Benin City, Edo State**

| Variables | Frequency (n=400) | Percent |
|---|---|---|
| **Determinants of participation in sporting activities** | | |
| Lack of time | 337 | 84.3 |
| Financial constraints | 213 | 53.3 |
| Sports facilities are not conveniently close to my residence | 291 | 72.8 |
| Physical limitation or injuries | 307 | 76.8 |
| Academic workload reduce my participation in sports | 327 | 81.8 |

The most frequently reported determinant was lack of time, cited by 337 respondents (84.3%). Similarly, a large proportion 327 (81.8%) stated that academic workload reduced their participation, while 307 (76.8%) identified physical limitations or injuries as a barrier. In addition, 291 (72.8%) of the respondents reported that sports facilities were not conveniently located near their residences. Financial constraints were also highlighted, with 213 respondents (53.3%) citing this as a limiting factor.

**Table 15: Association between determinants of participation and participation in sporting activities among undergraduates in Benin City, Edo State**

| Variables | Prevalence of sporting activities | | Test statistic | p-value |
|---|---|---|---|---|
| | Yes freq (%) | No freq (%) | ($\chi$2) | |
| **Lack of time** | | | | |
| Yes | 110 (32.6) | 227 (67.4) | 1.177 | 0.278 |
| No | 25 (39.7) | 38 (60.3) | | |
| **Financial constraints** | | | | |
| Yes | 73 (34.3) | 140 (65.7) | 0.056 | 0.814 |
| No | 62 (33.2) | 125 (66.8) | | |
| **Sports facilities far from residence** | | | | |
| Yes | 101 (34.7) | 190 (65.3) | 0.438 | 0.508 |
| No | 34 (31.2) | 75 (68.8) | | |
| **Physical limitation or injuries** | | | | |
| Yes | 106 (34.5) | 201 (65.5) | 0.357 | 0.550 |
| No | 29 (31.2) | 64 (68.8) | | |
| **Academic workload** | | | | |
| Yes | 107 (32.7) | 220 (67.3) | 0.847 | 0.357 |
| No | 28 (38.4) | 45 (61.6) | | |

Students those who reported lack of time participated in sports less 110 (32.6%) compared to those who did not complain of lack of time 25 (39.7%). However, this association was not statistically significant ($\chi^2 = 1.177$, $p = 0.278$).

Students who experienced financial constraints participated in sports more 73 (34.3%) compared to 62 (33.2%) of those without financial constraints. However, this association was not statistically significant ($\chi^2 = 0.056$, $p = 0.814$).

Students who indicated that sports facilities were far from their residence participated more in sports 101 (34.7%) compared to those who did not 34 (31.2%). This association was, however, not statistically significant ($\chi^2 = 0.438$, $p = 0.508$).

Those who reported physical limitations or injuries participated more in sports 106 (34.5%) compared to those without such limitations 29 (31.2%). However, this association was not statistically significant ($\chi^2 = 0.357$, $p = 0.550$).

With respect to academic workload, students who reported academic workload as a barrier 107 (32.7%) participated in sports less compared to those without workload constraints 28 (38.4%). However, this association was not statistically significant ($\chi^2 = 0.847$, $p = 0.357$).

**Table 16: Influence of determinants of participation in sporting activities on participation in sports among undergraduates in Benin City, Edo State**

| Variables | B | Odds Ratio | 95% CI For OR | | p-value |
|---|---|---|---|---|---|
| | | | Lower | Upper | |
| **Lack of time** | | | | | |
| Yes | -0.335 | 0.715 | 0.409 | 1.253 | 0.241 |
| No* | | 1 | | | |
| **Financial constraints** | | | | | |
| Yes | 0.031 | 1.032 | 0.675 | 1.577 | 0.885 |
| No* | | 1 | | | |
| **Sports facilities far from residence** | | | | | |
| Yes | 0.195 | 1.216 | 0.752 | 1.964 | 0.425 |
| No* | | 1 | | | |
| **Physical limitation or injuries** | | | | | |
| Yes | 0.192 | 1.211 | 0.732 | 2.006 | 0.456 |
| No* | | 1 | | | |
| **Academic workload** | | | | | |
| Yes | -0.282 | 0.754 | 0.444 | 1.282 | 0.298 |
| No | | 1 | | | |

*reference category ($R^2$ = 0.8 – 1.1%, CI = Confidence Interval, OR = Odds Ratio)

Students who reported lack of time were 1.4 times less likely to participate in sporting activities compared to those without this challenge (OR = 0.715, 95% CI: 0.409–1.253, p = 0.241). However, this was not statistically significant.

Students who experienced financial constraints were 1.0 times more likely to participate in sporting activities compared with those without financial constraints (OR = 1.032, 95% CI: 0.675–1.577, p = 0.885). This was, however, not statistically significant.

Those who reported that sports facilities were far from their residence were 1.2 times more likely to participate in sporting activities compared with those who did not report this challenge (OR = 1.216, 95% CI: 0.752–1.964, p = 0.425). However, this was not statistically significant.

Similarly, students who reported physical limitations or injuries were 1.2 times more likely to participate in sporting activities compared to those without such limitations (OR = 1.211, 95% CI: 0.732–2.006, p = 0.456). This difference was not statistically significant.

Students who identified academic workload as a barrier were 1.3 times less likely to participate in sporting activities compared with those who did not (OR = 0.754, 95% CI: 0.444–1.282, p = 0.298). However, this was not statistically significant.

**SECTION F:**

**INFLUENCE OF SPORTING ACTIVITIES ON ACACDEMIC PERFORMANCE AMONG UNDERGRADUATES IN BENIN CITY**

**Table 17: Level of academic performance among undergraduates in Benin City, Edo State**

| Variables | Frequency (n=400) | Percent |
|---|---|---|
| **Current academic performance** | | |
| Third class (CGPA 1.5 - 2.39) | 18 | 4.5 |
| Second class lower (CGPA 2.4 - 3.49) | 171 | 42.8 |
| Second class upper (CGPA 3.5 - 4.49) | 183 | 45.8 |
| First class (CGPA ≥ 4.5) | 28 | 7.0 |
| **Average (most common) mark in last semester** | | |
| D | 10 | 2.5 |
| C | 124 | 31.0 |
| B | 231 | 57.8 |
| A | 35 | 8.8 |
| **Average (most common) mark throughout studies** | | |
| D | 18 | 4.5 |
| C | 169 | 42.3 |
| B | 185 | 46.3 |
| A | 28 | 7.0 |
| **Worst mark in last semester** | | |
| F | 35 | 8.8 |
| D | 126 | 31.5 |
| C | 199 | 49.8 |
| B | 40 | 10.0 |
| **Best mark in last semester** | | |
| C | 23 | 5.8 |
| B | 172 | 43.0 |
| A | 205 | 51.2 |

Regarding the current academic performance utilizing the Cummulative Grade Point Average (CGPA), the largest proportion of respondents were in the Second Class Upper division 183 (45.8%), followed by Second Class Lower 171 (42.8%). A smaller percentage were in First Class 28 (7.0%), while only 18 (4.5%) fell into Third Class.

Concerning average (most common) mark obtained in last semester, majority reported an average grade of B 231 (57.8%), while 124 (31.0%) reported a C. Higher performance was less frequent, with 35 (8.8%) reporting an A, and 10 (2.5%) reporting a D.

With respect to average (most common) mark gotten throughout studies, the most common mark was B 185 (46.3%), closely followed by C 169 (42.3%). Only 28 (7.0%) reported an A on average, and 18 (4.5%) reported a D.

For the worst mark obtained in the last semester, the most frequently reported lowest grade in the previous semester was C 199 (49.8%), followed by D 126 (31.5%). Failing grades (F) were reported by 35 respondents (8.8%), while 40 (10.0%) recorded B as their lowest grade.

Regarding the best mark obtained in last semester, the highest grade attained by most respondents was A 205 (51.2%), followed by B 172 (43.0%). A smaller number 23 (5.8%) reported C as their best grade.

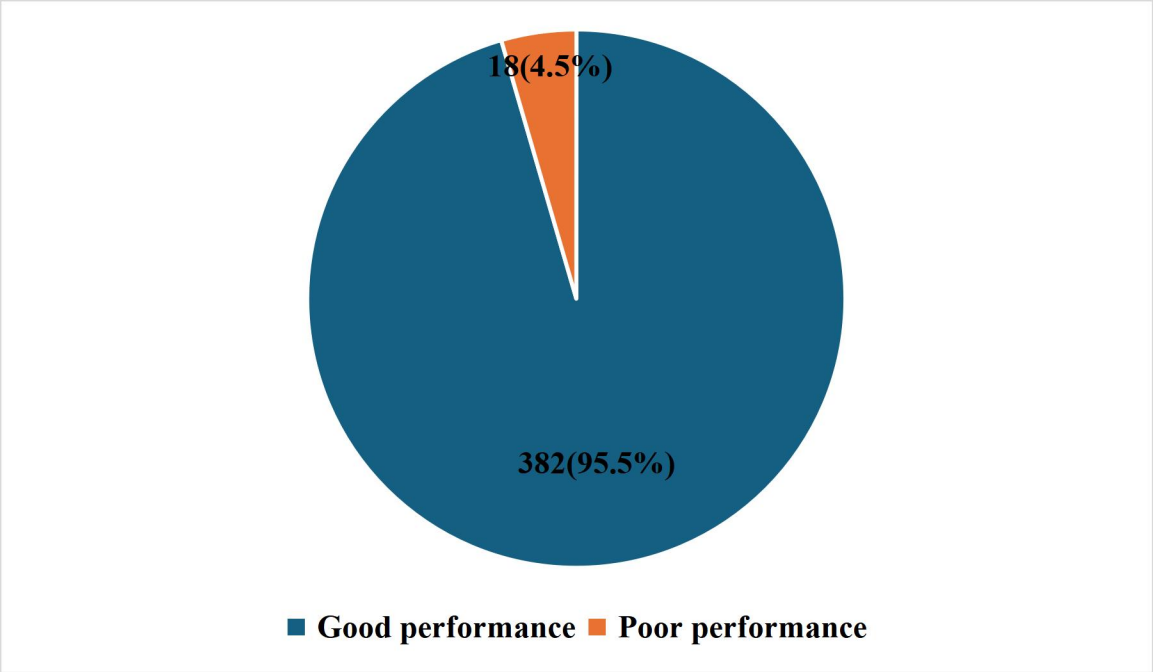


**FIGURE 5: ACADEMIC PERFORMANCE AMONG UNDERGRADUATES IN BENIN CITY, EDO STATE.**

In relation to academic performance, 382 (95.5%) and 18 (4.5%) of the respondents had good and poor performance respectively.

**Table 18: Factors associated with academic performance among undergraduates in Benin City, Edo State**

| Variables | Academic Performance | | Test statistic ($\chi 2$) | p-value |
|---|---|---|---|---|
| | Good freq (%) | Poor freq (%) | | |
| **Age (years)** | | | | |
| <20 | 126 (95.5) | 6 (4.5) | 0.048 | 0.976 |
| 21 – 30 | 255 (95.5) | 12 (4.5) | | |
| >30 | 1 (100.0) | 0 (0) | | |
| **Sex** | | | | |
| Male | 185 (95.9) | 8 (4.1) | 0.109 | 0.741 |
| Female | 197 (95.2) | 10 (4.8) | | |
| **Ethnicity** | | | | |
| Edo Indigene | 111 (96.5) | 4 (3.5) | 0.392 | 0.531 |
| Non-Edo Indigene | 271 (95.1) | 14 (4.9) | | |
| **Religion** | | | | |
| Christian | 352 (95.1) | 18 (4.9) | 1.528 | 0.216 |
| Others | 17 (56.7) | 13 (43.3) | | |
| **Marital status** | | | | |
| Ever married* | 41 (97.6) | 1 (2.4) | 0.490 | 0.484 |
| Never married** | 341 (95.3) | 17 (4.7) | | |
| **Institution** | | | | |
| UNIBEN | 281 (94.6) | 16 (5.4) | 2.264 | 0.322 |
| BIU | 70 (98.6) | 1 (1.4) | | |
| Wellspring | 31 (96.9) | 1 (3.1) | | |
| **Department** | | | | |
| Medical | 250 (96.9) | 8 (3.1) | 3.311 | 0.069 |
| Non-medical | 132 (93.0) | 10 (7.0) | | |
| **Level** | | | | |
| Junior level | 212 (95.5) | 10 (4.5) | 0.000 | 0.996 |
| Senior level | 170 (95.5) | 8 (4.5) | | |
| **Residence** | | | | |
| Campus | 229 (98.3) | 4 (1.7) | 10.060 | **0.002** |
| Off-Campus*** | 153 (91.6) | 14 (8.4) | | |
| **Allowance** | | | | |
| ≤ ₦ 30,000 | 3 (100.0) | 0 (0) | 0.142 | 0.706 |
| > ₦ 30,000 | 379 (95.5) | 18 (4.5) | | |
| **Knowledge of sports** | | | | |
| Good | 142 (96.6) | 5 (3.4) | 0.480 | 0.488 |
| Poor | 229 (90.5) | 24 (9.5) | | |
| **Attitude toward sports** | | | | |
| Positive | 223 (94.5) | 13 (5.5) | 1.362 | 0.243 |
| Negative | 159 (97.0) | 5 (3.0) | | |
| **Participation in sports** | | | | |
| Yes | 132 (97.8) | 3 (2.2) | 2.460 | 0.117 |
| No | 250 (94.3) | 15 (5.7) | | |

UNIBEN = University of Benin, BIU = Benson Idahosa University, *married, divorced, separated, widowed, **single, cohabiting, ***off-campus hostels, home

With respect to age, 126 (95.5%) students aged below 20 years had good academic performance, 255 (95.5%) students those aged 21–30 years had good academic performance, while all students above 30 years, 1 (100.0%), had good performance. However, age was not significantly associated with academic performance ($\chi^2 = 0.048$, $p = 0.976$).

Concerning sex, 185 (95.9%) males had good performance compared to 197 (95.2%) females. This difference was not statistically significant ($\chi^2 = 0.109$, $p = 0.741$).

Regarding ethnicity, 111 (96.5%) Edo indigenes had good performance compared with 271 (95.1%) non-Edo indigenes. The association between ethnicity and academic performance was not statistically significant ($\chi^2 = 0.392$, $p = 0.531$).

For religion, 352 (95.1%) Christians had good performance compared with 17 (56.7%) from other religions. There was no statistical significance ($\chi^2 = 1.528$, $p = 0.216$).

Regarding marital status, 41 (97.6%) of ever-married students had good performance compared with 341 (95.3%) never-married students. This difference was not statistically significant ($\chi^2 = 0.490$, $p = 0.484$).

Across institutions, students from BIU had the highest level of academic performance while 281 (94.6%) students of UNIBEN students and 31 (96.9%) of Wellspring students had good academic performance respectively. The association was, however, not statistically significant ($\chi^2 = 2.264$, $p = 0.322$).

By department, 250 (96.9%) medical students reported good academic performance compared with 132 (93.0%) non-medical students. The association had no statistical significance ($\chi^2 = 3.311$, $p = 0.069$).

At the level of study, 212 (95.5%) junior students had equal good academic performance with 170 (95.5%) senior students, with no significant difference was observed ($\chi^2 = 0.000$, $p = 0.996$).

Concerning residence, 229 (98.3%) students living on campus had good academic performance, while those off campus had 153 (91.6%). This association was statistically significant ($\chi^2$ = 10.060, **p = 0.002**).

For allowance, all 3 (100.0%) students earning ≤ ₦30,000 had good performance compared to 379 (95.5%) among those earning above ₦30,000. The difference was not statistically significant ($\chi^2$ = 0.142, p = 0.706).

Regarding knowledge, 142 (96.6%) students with good knowledge of sporting activities had good academic performance compared with 229 (90.5%) with poor knowledge. However, this was not statistically significant ($\chi^2$ = 0.480, p = 0.488).

For attitude, 159 (97.0%) students with a negative attitude had good performance compared with 223 (94.5%) with a positive attitude. This difference was not significant ($\chi^2$ = 1.362, p = 0.243).

In terms of sports participation, 132 (97.8%) students who participated in sports had good academic performance compared with those who did not participate in sports 250 (94.3%). This association was, however, not statistically significant ($\chi^2$ = 2.460, p = 0.117).

**Table 19: Predictors of academic performance among undergraduates in Benin City, Edo State**

| Variables | B | Odds Ratio | 95% CI For OR | | p-value |
|---|---|---|---|---|---|
| | | | Lower | Upper | |
| **Age (years)** | 0.499 | 1.647 | 0.426 | 6.366 | 0.470 |
| **Sex** | | | | | |
| Male | -0.127 | 1.135 | 0.327 | 2.373 | 0.802 |
| Female* | | 1 | | | |
| **Ethnicity** | | | | | |
| Edo Indigene | -0.125 | 1.132 | 0.265 | 2.946 | 0.839 |
| Non-Edo Indigene* | | 1 | | | |
| **Religion** | | | | | |
| Christian | 18.033 | 67861102.65 | 0.000 | | 0.998 |
| Others* | | 1 | | | |
| **Marital status** | | | | | |
| Ever married | -1.171 | 3.226 | 0.036 | 2.633 | 0.283 |
| Never married* | | 1 | | | |
| **Institution** | | | | | |
| UNIBEN | -0.798 | 0.712 | 0.041 | 4.969 | 0.515 |
| BIU | -0.995 | 2.703 | 0.021 | 6.583 | 0.498 |
| Wellspring* | | 1 | | | |
| **Department** | | | | | |
| Medical | -0.786 | 2.198 | 0.162 | 1.278 | 0.135 |
| Non-medical* | | 1 | | | |
| **Level** | | | | | |
| Junior level | 0.225 | 0.798 | 0.349 | 4.498 | 0.730 |
| Senior level* | | 1 | | | |
| **Residence** | | | | | |
| Campus | -1.774 | 5.882 | 0.045 | 0.645 | **0.009** |
| Off-Campus* | | 1 | | | |
| **Allowance** | | | | | |
| ≤ ₦ 30,000 | -18.346 | 0.000 | 0.000 | | 0.999 |
| > ₦ 30,000* | | 1 | | | |
| **Knowledge** | | | | | |
| Good | -0.226 | 1.253 | 0.305 | 2.090 | 0.646 |
| Poor* | | 1 | | | |
| **Attitude** | | | | | |
| Positive | -0.646 | 0.524 | 0.182 | 1.512 | 0.232 |
| Negative* | | 1 | | | |
| **Participation in sports** | | | | | |
| Yes | 0.990 | 2.692 | 0.761 | 9.521 | 0.124 |
| No* | | 1 | | | |

reference category ($R^2$ = 1.0 – 3.2%, CI = Confidence Interval, OR = Odds Ratio)

For every one year increase in age, students were about 1.6 times more likely to have good academic performance (OR = 1.647, 95% CI = 0.426–6.366, p = 0.470). However, this association was not statistically significant.

Male students were 1.1 times more likely to have good academic performance compared with females (OR = 1.135, 95% CI = 0.327–2.373, p = 0.802); this was not statistically significant.

Edo indigenes were 1.1 times more likely to have good academic performance compared with non-Edo indigenes (OR = 1.132, 95% CI = 0.265–2.946, p = 0.839), but the association was not significant.

Christians appeared vastly more likely to have good academic performance compared with respondents of other religions (OR = 67,861,102.65). However, this result is unreliable (likely due to sparse data or estimation error) and was not statistically significant (p = 0.998).

Students who had ever been married were 3.2 times more likely to have good academic performance than those who had never been married (OR = 3.226, 95% CI = 0.036–2.633, p = 0.283), however, this was not statistically significant.

Compared with Wellspring, students from UNIBEN were 1.4 times less likely to have good academic performance (OR = 0.712, 95% CI = 0.041–4.969, p = 0.515), while students from BIU were 2.7 times more likely (OR = 2.703, 95% CI = 0.021–6.583, p = 0.498), neither result was statistically significant.

Students in medical departments were 2.2 times more likely to have good academic performance compared with non-medical students (OR = 2.198, 95% CI = 0.162–1.278, p = 0.135), though this was not statistically significant.

Students in junior levels were 1.3 times less likely to have good academic performance compared with those in senior levels (OR = 0.798, 95% CI = 0.349–4.498, p = 0.730), but this was not significant.

Students living on campus were 5.9 times more likely to have good academic performance compared with those living off campus (OR = 5.882, 95% CI = 0.045–0.645, **p = 0.009**), and this association was statistically significant.

With respect to allowance, students earning ≤ ₦30,000 appeared less likely to have good academic performance (OR = 0.000), but this collapsed odds ratio reflects estimation problems and was not reliable, it was also not statistically significant (p = 0.999).

Students with good knowledge were 1.3 times more likely to have good academic performance compared with those with poor knowledge (OR = 1.253, 95% CI = 0.305–2.090, p = 0.646); this was not statistically significant.

Students with positive attitudes were 1.9 times less likely to have good academic performance compared with those with negative attitudes (OR = 0.524, 95% CI = 0.182–1.512, p = 0.232), but this was not statistically significant.

Students who reported participating in sports were about 2.7 times more likely to have good academic performance compared with those who did not (OR = 2.692, 95% CI = 0.761–9.521, p = 0.124), although this association was not statistically significant.

# CHAPTER FIVE

## 5.1 DISCUSSION

Findings from this study revealed that most respondents were young adults were aged 20–24 years (60.3%), with a mean age of 21.95 ± 2.834 years. Females (51.7%) slightly outnumbered males (48.3%). Ethnic distribution showed that the majority were from the host ethnic group Benin (28.8%) followed by Etsako (16.8%) and Urhobo (16.3%). Almost all respondents were Christians (92.5%), with few being Muslims (6.5%) and adherents of African traditional religion (1.0%). In terms of marital status, most were single (89.5%). A large proportion of undergraduates were enrolled in UNIBEN (74.3%). Across departments, Nursing (19.3%) had the highest proportion. By academic level, respondents were fairly distributed across 200 level (28.5%), 300 level (27.0%), and 400 level (29.0%), while only 5.5% were in 600 level. In terms of employment, 67.3% were unemployed, while 32.8% were employed. For residence, more than half lived in school hostels (58.3%), while others resided off campus (33.8%) or at home (8.0%). Almost all students (99.3%) reported receiving a monthly allowance above ₦30,000.

The dominance of the 20–24, with a mean age of 21.95 ± 2.834 years group is expected, as this is the common age bracket for undergraduate students in Nigeriacoupled with the fact it is consistent with previous Nigerian studies that conducted research on undergraduate populations.[89] The slight female predominance reflects ongoing improvements in female access to higher education, especially in Southern Nigeria.[126] The ethnic composition mirrors the study location being in Edo State, where Benin and related groups are the indigenous population. The religious profile is also typical of Southern Nigeria, which is predominantly Christian. The dominance of UNIBEN participants reflects its larger population compared to the private

universities included. The low rate of employment is due to the fact that students are primarily engaged in academics.

These demographic patterns are significant for public health and education development. The youthfulness of the population highlights the need for health promotion strategies targeting lifestyle habits and stress management because proper and effective education of the Nigerian youth will lead to better national development.[127]

Therefore, tertiary institutions should strengthen youth-centered health services, targeting all aspects of health including, but not limited to, physical, mental and social health. This includes creation of programmes that boost all areas of health such as sport programmes that improve physical, mental and social health.

This study found that all respondents reported being aware of sporting activities. The most common source of information was the family, followed by television, while only a very small number mentioned friends as their main source. This suggests that sporting activities are widely recognized and that family remains the primary channel of information dissemination. A probable reason is that discussions and encouragement about physical activity often begin at home, where family influence is stronger than other social or media channels.

Awareness of sporting activities is beneficial as it provides a strong foundation for promoting regular participation in physical activity. The central role of family highlights the importance of involving households in community-based interventions to improve sports participation and overall physical activity. Public health campaigns could involve both families and mass media outlets like television to sustain and expand awareness.

Regarding knowledge of sporting activities, a little over one-third of the undergraduates studied demonstrated good knowledge of sporting activities, while the majority had poor knowledge.

This suggests that many students are not adequately informed about the types, intensities, and health benefits of different sporting activities. Majority of the students correctly identified the types of sporting activities as physical and mental and examples of such types, however, less than half the students could correctly categorize physical sports as vigorous, moderate and low intensity physical sports. This gap in knowledge of sporting activities can be attributed to the fact that sporting activities are often practiced informally, with limited structured education or health promotion on the categories and importance of sporting activities, leading to misconceptions or shallow understanding of sporting activities.

The finding is consistent with results from Portugal where majority of undergraduate students showed poor knowledge of physical activity recommendations.[57] The findings from the study is however in contrast to a study conducted in Zimbabwe where undergraduate students were strongly knowledgeable of the benefits of exercise.[58]

The finding is partly consistent with a study conducted in Enugu that also observed knowledge gaps in physical activity among undergraduates at the University of Nigeria, Nsukka.[61]

These knowledge gaps have significant public health implication. Limited awareness and knowledge of sporting activities and its benefits can reduce the range of sporting activities an individual will choose to participate in and the motivation for consistent participation in beneficial physical activity, thereby contributing to sedentary lifestyles, obesity, and other non-communicable diseases. Globally, physical inactivity is a major risk factor for cardiovascular diseases, Type 2 diabetes and premature mortality. Improving knowledge of sports is thus central to preventive health strategies in the university environment.[120]

To improve the knowledge of sporting activities among undergraduates, tertiary institutions should integrate structured physical education and awareness campaigns into the academic

curricula and health programs. Beyond providing facilities, tertiary institutions should organize health talks and peer-led sports education that highlight the various types of sporting activities and their benefits. Lecturers in health sciences and physical education departments can collaborate to deliver workshops. Such initiatives would not only raise knowledge levels but also foster lifelong healthy behaviours among undergraduates.

With respect to attitude, majority of the undergraduates expressed a positive attitude towards sporting activities, while only a small proportion demonstrated negative attitudes. Most students agree that engagement in sports is loveable and that participation in sports should occur even outside tertiary institutions. This positive attitude may be linked to the availability of sports facilities within the institution and presence of large number of peers in tertiary institutions.

This finding is consistent with a study conducted in India and Pakistan which showed that a significant proportion of undergraduates have positive attitude towards physical activity. This is in contrast to a study carried out in South Africa to characterise the attitude towards participation in sporting activities that revealed that those who participate in sports do so for the prospect of money and fame, they also gave a low ranking to the health benefits of physical activity.[66]

Findings from this study aligns with results from a study conducted in Enugu which revealed that undergraduates have a positive attitude towards physical activities.[69]

Possessing positive attitudes is crucial because attitude strongly influences behaviour, therefore students are more likely to participate in sporting activities, which can reduce the burden of sedentary lifestyle, prevent non-communicable diseases and achieve the WHO Global guidelines on physical activity and sedentary behaviour.[121]

In order to further boost the positive attitude towards sporting activities, tertiary institutions should build on students' positive disposition by providing more structured platforms to engage

in sports. This could include expanding intra- and inter-school competitions and integrating recreational sports into routine campus culture. Additionally, targeted interventions should address the minority with negative attitudes by promoting inclusive, enjoyable, and low-barrier sporting options such as aerobics, walking clubs, or non-competitive games. Such initiatives would help ensure that the positive attitude translates into consistent participation and long-term health benefits.

Regarding prevalence and level of participation in sporting activities, only about one-third of the undergraduates participated in sporting activities, while two-thirds did not engage in any sporting activities. This finding indicates a relatively low prevalence of sports participation despite the majority of students having positive attitudes toward sports, as seen in earlier results. A probable reason for this discrepancy could be academic workload, inadequate time or limited access to functional sporting facilities. Additionally, lifestyle factors such as preference for sedentary entertainment such as social media and movies may contribute to reduced participation.

Results from this study is in contrast to a study conducted in India which revealed that the undergraduate population had better overall physical activity when compared to that of the adult population.[72] Results from this study is in contrast to a study conducted in Ghana which showed that undergraduates had a high prevalence of physical activity.[74] Results from this study is also in contrast to a study conducted in Lagos State which revealed that undergraduates had a fair prevalence of participation in sports.[76]

The low prevalence of sports participation among undergraduates is alarming because physical inactivity is a major risk factor for obesity, hypertension, diabetes and other non-communicable diseases which increase morbidity following early onset of such diseases. Furthermore, WHO

estimates that approximately US $300 billion will be gutted by the public health care systems between 2020 and 2030 if physical inactivity is not reduced.[122]

To address this, universities should adopt policies that integrate sporting activities into academic life. This could include mandating recreational physical activity as part of general studies, expanding access to well-maintained sports facilities and scheduling intramural competitions that are compatible with students' academic calendars. Peer-based programs and awareness campaigns emphasizing the health and academic performance benefits of exercise may also encourage higher participation.

Concerning determinants of participation in sporting activities, a notable finding from this study is that the vast majority of undergraduates identified lack of time and heavy academic workload as major barriers to sports participation. In fact, more than four out of five respondents cited academic demands as limiting their engagement. This indicates that despite a generally positive attitude towards sports, academic pressures discourage students from prioritizing physical activity. A probable reason is that students in Nigerian universities often face congested lecture schedules, long hours of study, and preparation for examinations, leaving little time for recreation.

Findings from this study is consistent with a study carried out in the United States of America which revealed that participation in sporting activities was constrained by recreation facility spaces and lack of time.[78]

Findings from this study is consistent with a study carried out in South Africa which showed that academic workload, time barriers and insufficient visibility of physical activity programmes were significant barriers to participation in sporting activities.[79]

Such factors like academic workload or lack of time are significant factors because they not only reduce the level of participation in sporting activities but go even a step further, in an isolated pattern, to cause psychological stress therefore reducing the overall quality of life, which includes the academic life, of the undergraduate.[79,123]

To mitigate this challenges, tertiary institutions should consider institutional strategies that integrate sports into students' daily lives. This may include embedding mandatory recreational hours into the timetable, reducing academic workloads to allow leisure time and providing incentives such as credit units for sports participation. Additionally, counselling services can emphasize time management skills to help students balance academics with physical activity. By addressing time-related barriers, tertiary institutions can create a healthier and more balanced student community.

Regarding influence of sporting activities on academic performance of undergraduates, this study found that students who engaged in sporting activities are more likely to have good academic performance compared to non-participants, though the association was not statistically significant. These findings suggest that while sports may provide a positive influence on academic achievement through enhanced concentration and stress relief, the effects in this population may not be strong enough to demonstrate clear statistical evidence. This could be due to variability in study habits, academic workload or the balance between sports and academics among respondents.

Findings from this study align with a study conducted in Saudi Arabia which revealed that participation in sporting activities has a positive impact on the education of undergraduates, this finding was statistically significant. Results from this study is also consistent with a study

conducted in South Africa which revealed that participation in sports help participants reduce anxiety and enhance cognitive function which leads to better academic performance.[124]

Findings from this study align with a study conducted in Ekiti State which revealed that participation in sports enhances the mental capacity of participants.[90]

This implies that participation in sports has a positive influence on academic performance directly, and likewise indirectly by increasing focus, self control and mental health all of which culminates in better academic performance.[125]

Based on these findings, tertiary institutions should integrate well-structured sporting activities into student curricula while relaxing the academic programme. Other strategies to boost participation in sporting activities include provision of incentives like scholarships, stipends, sport hostels amongst others. Campaigns emphasizing the dual benefits of sports for health and academics could also enhance participation. Additionally, mentorship programs sponsored by the tertiary institutions where successful student-athletes share strategies for balancing academics and sports may help strengthen the participation and potential academic benefits.

## 5.2 CONCLUSION

This study revealed that although all students were aware of sporting activities, the level of knowledge was generally poor, as only a minority could correctly categorize types and intensities of sports.

In contrast, most undergraduates demonstrated a positive attitude towards sporting activities, showing strong willingness and appreciation for sports participation.

Despite this, the actual prevalence of participation was low, with only about one-third of students actively engaging in sports.

The most common determinants of low participation were lack of time and heavy academic workload, which emerged as the major barriers to consistent involvement in sporting activities. Other lifestyle preferences, such as sedentary leisure, may also contribute to reduced participation.

Finally, while participation in sporting activities was associated with better academic performance, the relationship was not statistically significant. Nonetheless, the evidence suggests that engagement in sports provides benefits such as stress relief, improved concentration, and enhanced cognitive function, all of which can indirectly support academic success.

Overall, these findings highlight a critical gap between positive attitudes and actual practice. To address this, tertiary institutions should integrate structured sports programs into academic schedules, expand access to facilities, and adopt policies that reduce barriers to participation. Promoting awareness of the health and academic benefits of sports could strengthen both student well-being and educational outcomes.

## 5.3 RECOMMENDATION

### To the Federal Government of Nigeria

The Federal Government should mandate tertiary institutions to embed structured sporting and recreational activities into their academic programmes. This could include compulsory general studies courses on physical activity and scheduled recreational hours. Such integration will help bridge the gap between students' positive attitudes and their poor knowledge of and low participation in sporting activities.

The Federal Government should ensure equitable access to functional and safe sports facilities by providing adequate funding for the development and maintenance of modern sports facilities in tertiary institutions across the country thus will reducing one of the major barriers to student participation.

The Federal Government should sponsor campaigns that are both family- and institution-based, using both traditional and digital media, to strengthen knowledge, reduce misconceptions and motivate consistent student engagement in sporting activities.

### To the Federal Ministry of Youth & Sports & To the Edo State Sports Commission

They should collaborate with tertiary institutions to expand intra- and inter-university sport competitions, recreational societies and mentorship programmes that encourage undergraduates to balance academics with sports.

They should prioritize the construction and renovation of accessible, low-cost, and student-oriented sports facilities within campuses.

They should enlist undergraduates who participate in sports on scholarships, monetary contracts amongst other incentives in order to encourage participation in sporting activities.

They should design and implement youth-driven campaigns that highlight the health, social, and academic benefits of sports participation, using peer role models and digital platforms to inspire consistent involvement.

**To Tertiary institutions in Benin City, Edo State**

Tertiary institutions should create reward systems such as scholarships, school fee discounts or recognition awards for students who actively engage in sports, to promote greater participation.

They should reduce the academic demands required from students, thus reducing the academic workload which in turn creates time for extracurricular activities that centres mainly around sports.

Encourage the formation of student-driven sport clubs for various sports, giving undergraduates ownership and leadership roles in planning, organizing and sustaining sporting activities thereby ensuring they are actively involved and therefore participating in sporting activities at every level.

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## APPENDIX I

## INFORMED CONSENT FORM

**TITLE OF STUDY: ASSESSMENT OF THE ROLE OF SPORTING ACTIVITIES AMONG UNDERGRADUATE STUDENTS IN SELECTED TERTIARY INSTITUTIONS IN BENIN CITY.**

INVESTIGATOR: EKAJEH TALENT EBRUBAOGHENE

SUPERVISOR: PROF. OBI

FINANCIAL SPONSORSHIP: This research project is self-sponsored.

PURPOSE OF THE RESEARCH: The purpose of this study is to assess the knowledge, attitude, prevalence and determinants of sleep disorders among medical students at the University of Benin, Benin city.

PROCEDURES AND PROTOCOL INVOLVED IN THE STUDY

You are kindly requested to complete a questionnaire designed to assess the prevalence, patterns, and factors associated with sleep disorders among medical students at the University of Benin. This questionnaire is for research purposes only.

COMPENSATION

There was no financial compensation for participating in this study.

VOLUNTARY PARTICIPATION

Your participation in this research is completely voluntary. There will be no discrimination against you if you choose not to participate. You are free to change your mind and withdraw from the study at any time, even if you initially agreed to take part.

SIDE EFFECTS

There is no anticipated adverse effect associated with participating in this study.

BENEFIT

The benefit of this study includes the provision of useful local data for the improvement of education and student welfare.

CONFIDENTIALITY

All information and data obtained during this study will be kept confidential. Participant names will not be recorded on the questionnaires, and all collected information will be securely stored in a password-protected file on my personal computer. Any physical copies will be stored in a locked personal document cabinet.

CONTACT INFORMATION

Ekajeh Talent Ebrubaoghene

Medical Student

Email: ekajehtalent@gmail.com

Tel: +9065377385

Ethics and Research Committee

University of Benin Teaching Hospital

Benin City.

Phone Number: 07063331337

CERTIFICATE OF CONSENT

I have read the above information (or it has been read to me). I had the opportunity to ask questions about it and the questions were answered to my satisfaction.

(A) I consent voluntarily to take part as a participant in this study

(B) I do not consent to participate in this study.

Name of Participant: ----------

Signature of participant: ----------

Date:----------

## APPENDIX II

## QUESTIONNAIRE ON ASSESSMENT OF THE ROLE OF SPORTING ACTIVITIES AMONG UNDERGRADUATE STUDENTS IN SELECTED TERTIARY INSTITUTIONS IN BENIN CITY, EDO STATE

**S/N.....**

Dear respondent, I am Ekajeh Talent Ebrubaoghene, a 600 level student at the School of Medicine, University of Benin, Benin City. I am researching to assess the **ROLE OF SPORTING ACTIVITIES AMONG UNDERGRADUATE STUDENTS IN SELECTED TERTIARY INSTITUTIONS IN BENIN CITY**, Edo State, Nigeria. This questionnaire will serve as a tool for data collection in this research. Your sincere response will be helpful and the information given here will be appreciated and treated with confidentiality.

### SECTION A: SOCIODEMOGRAPHIC CHARACTERISTICS

1. Age as at last birthday(years) _____
2. Sex: Male ( ) Female ( )
3. Religion: Christianity ( ) Islam ( ) African Traditional Religion ( ) Others ( )……..
4. Marital Status: Single ( ) Married ( ) Cohabiting ( ) Divorced ( ) Separated ( ) Widowed ( ) Others ( ) _____
5. Ethnicity: Benin ( ) Etsako ( ) Esan ( ) Igbo ( ) Yoruba ( ) Hausa ( ) Others…….
6. Institution of Respondent: UNIBEN ( ) BIU ( ) Wellspring ( )
7. Faculty:.....
8. Department:.....
9. Level : 200 ( ) 300 ( ) 400 ( ) 500 ( ) 600 ( )
10. Employment status: Employed ( ) Unemployed ( )
11. How much is your monthly allowance? < N 10,000 ( ) N 10,000 ( ) 20,000 ( ) N30,000 ( ) 40,000 ( ) N 50,000 ( ) N60,000 ( ) N70, 000 ( ) > 70,000 ( )

12. Place of Residence: School Hostel ( ) Off-Campus ( ) Home ( )

**SECTION B: KNOWLEDGE OF SPORTING ACTIVITIES**

13. Have you heard of sporting activities? Yes[ ] No[ ]
If no, skip to Section C
14. If yes, where did you hear about it? Television [ ] Newspaper [ ] Family [ ] Friends [ ] Internet [ ] Others specify.....
15. Do you know the types of sporting activities? Yes [ ] No [ ]. If no, skip to 17
16. What are the types of sporting activities you know? Mental [ ] Physical [ ] Both [ ]
17. What are the examples of mental sports you know? Scrabble [ ] Football [ ] Running [ ] Chess [ ] Basketball [ ] Esports [ ] Swimming [ ] (**MRQ)**
18. What are the examples of physical sports you know? Scrabble [ ] Football [ ] Running [ ] Chess [ ] Basketball [ ] Esports [ ] Swimming [ ] (**MRQ)**
19. Do you know the types of physical sporting activities? Yes [ ] No [ ] , if no, skip to 24
20. What are the types of physical sports you know? Vigorous [ ] Moderate [ ] Low [ ] (**MRQ)**
21. What are the examples of vigorous intensity physical sports you know? Football [ ] Table tennis [ ] Volleyball [ ] Golf [ ] Basketball [ ] Swimming [ ] **(MRQ)**
22. What are the examples of moderate intensity physical sports you know? Football [ ] Table tennis [ ] Volleyball [ ] Golf [ ] Basketball [ ] Swimming [ ] **(MRQ)**
23. What are the examples of low intensity physical sports you know? Football [ ] Table tennis [ ] Volleyball [ ] Golf [ ] Basketball [ ] Swimming [ ] (**MRQ)**
24. Do you know the types of sports facilities in the university? Yes [ ] No [ ]
25. Do you know the location of the sports facilities in the university? Yes[ ] No[ ]
26. Do you know their time for practice? Yes[ ] No[ ]

**B (i) KNOWLEDGE OF INTELLECTUAL BENEFITS**

27. Improves concentration and attention. True [ ] False [ ]
28. Enhances memory and learning. True [ ] False [ ]
29. Improves multitasking abilities. True [ ] False [ ]
30. Promotes problem-solving and decision making skills. True [ ] False [ ]
31. Improves academic performance. True [ ] False [ ]
32. Increases the risk of age-related cognitive decline. True [ ] False [ ]
33. Reduces alertness and awakeness. True [ ] False [ ]

**B (ii) KNOWLEDGE OF PHYSICAL BENEFITS**

34. Sporting activities help in weight management. True [ ] False [ ]
35. Sporting activities reduce risks of hypertension and diabetes. True [ ] False [ ]
36. Sporting activities improve our posture and flexibility. True [ ] False [ ]
37. Sporting activities reduce the strength of muscles and bones. True [ ] False [ ]
38. Sporting activities suppress the immune system. True [ ] False [ ]

**B (iii) KNOWLEDGE OF PSYCHOLOGICAL BENEFITS**

39. Sporting activities reduce stress and anxiety. True [ ] False [ ]
40. Sporting activities reduce confidence and self-esteem. True [ ] False [ ]
41. Sporting activities improve perseverance and resilience. True [ ] False [ ]
42. Sporting activities maintains emotional stability. True [ ] False [ ]
43. Sporting activities impairs focus and reduces concentration. True [ ] False [ ]

**B (iv) KNOWLEDGE OF SOCIAL BENEFITS**

44. Improves social connections and communication. True [ ] False [ ]
45. Enhance teamwork and collaboration skills. True [ ] False [ ]

46. Worsens leadership skills. True [ ] False [ ]
47. Increases the feeling of loneliness. True [ ] False [ ]
48. Reduces interpersonal skills. True [ ] False [ ]

**SECTION C: ATTITUDE TOWARDS SPORTING ACTIVITIES**

**Please tick one response per row, where SA = Strongly agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly disagree**

| S/N | ITEMS | SA | A | N | D | SD |
|---|---|---|---|---|---|---|
| 49. | Engagement in sporting activities is loveable. | | | | | |
| 50. | Sports are a significant aspect of a student's life. | | | | | |
| 51. | Participation in sports during free time should be anticipated. | | | | | |
| 52. | Use of sporting materials are enjoyable. | | | | | |
| 53. | Sporting activities are inclusive for all. | | | | | |
| 54. | Sports and academic learning are equally important. | | | | | |
| 55. | Participation in sports should occur even outside tertiary institutions. | | | | | |
| 56. | Sports should be prioritized over other extra-curricular activities. | | | | | |
| 57. | Physical health can be promoted through sporting activities. | | | | | |
| 58. | Willingness to recommend participation in sports to friends and other significant others. | | | | | |

**SECTION D: PREVALENCE AND LEVEL OF PARTICIPATION IN SPORTS ACTIVITIES**

59. Have you ever participated in sporting activities? Yes [ ] No [ ]
If no, skip to Section E
60. What type of sports do you participate in? Mental sports[ ] Physical sports[ ] Both [ ]
61. Which sports do you play? Football[ ] Running[ ] Volleyball[ ] Scrabble [ ] Basketball [ ] Tennis[ ] Badminton [ ] High jump [ ] Long jump[ ] Swimming[ ] Chess [ ] Handball[ ] Others[ ], specify.....**(MRQ)**
62. How often do you participate in a week? Once [ ] Twice [ ] 3 times [ ] 4 times [ ] 5 times [ ] 6 times [ ] 7 times [ ]
63. Reason for participation in sports: Professionally [ ] Leisurely [ ]
64. Do you make use of sports and leisure facilities? Yes[ ] No[ ]
65. In the past 12 months, have you participated in any sporting activities? Yes [ ] No [ ] , if no, skip to **SECTION E**
66. What type of sports did you participate in? Mental sports [ ] Physical sports [ ] Both [ ]

67. What sports did you play? Football[ ] Running[ ] Volleyball[ ] Scrabble [ ] Basketball [ ] Tennis[ ] Badminton [ ] High jump [ ] Long jump[ ] Swimming[ ] Chess [ ] Handball[ ] Others[ ], specify.....**(MRQ)**

**SECTION E: DETERMINANTS OF PARTICIPATION IN SPORTS ACTIVITIES**

68. Lack of time prevents me from participating in sports True [ ] False [ ]
69. Financial constraints limit my sports participation True [ ] False [ ]
70. The sports facilities are not situated conveniently close to my residence True [ ] False [ ]
71. Physical limitations or injuries restrict my participation True [ ] False [ ]
72. Academic workload reduce my participation in sports True [ ] False [ ]

**SECTION F: INFLUENCE OF SPORTING ACTIVITIES ON ACADEMIC PERFORMANCE**

73. How would you rate your current academic performance?
- [ ] First Class (CGPA ≥ 4.50)
- [ ] Second Class Upper (CGPA 3.50 – 4.49)
- [ ] Second Class Lower (CGPA 2.40 – 3.49)
- [ ] Third Class (CGPA 1.50 – 2.39)
- [ ] Fail (CGPA below 1.50)

74. Average (most common) mark in last semester: A[ ] B[ ] C[ ] D[ ] F[ ]
75. Average (most common) mark throughout studies: A[ ] B[ ] C[ ] D[ ] F[ ]
76. Worst mark in last semester: A[ ] B[ ] C[ ] D[ ] F[ ]
77. Best mark in last semester: A[ ] B[ ] C[ ] D[ ] F[ ]
78. Do you feel that participation in sporting activities has influenced your academic performance? Yes[ ] No[ ]

If no, end.

79. If yes, how? Positively[ ] Negatively[ ]

**Thank you!**

# APPENDIX III

# HEALTH RESEARCH ETHICS COMMITTEE (HREC)

## UNIVERSITY OF BENIN TEACHING HOSPITAL

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***HREC OFFICE:***
Committee email: ubthresearchethics@gmail.com
***Registration Number:***
NHREC-UBTH-HREC/24/12/2022B


**PROTOCOL NUMBER: ADM/E 22/A/VOL. VII/148654912581**

**PROPOSAL TITLE: "ASSESSMENT OF THE ROLE OF SPORTING ACTIVITIES AMONG UNDERGRADUATE STUDENTS IN SELECTED TERTIARY INSTITUTIONS IN BENIN CITY, EDO STATE"**

**PRINCIPAL INVESTIGATOR(S): EKAJEH TALENT EBRUBAOGHENE**

**DEPARTMENT/INSTITUTION: DEPARTMENT OF PUBLIC HEALTH AND COMMUNITY MEDICINE, SCHOOL OF MEDICINE, UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, NIGERIA**

**DATE CONSIDERED: JULY 7TH, 2025**

**DECISION OF THE COMMITTEE: APPROVED**

***THIS APPROVAL DATES 7/7/2025 TO 6/7/2026. IF THERE IS DELAY IN STARTING THE RESEARCH, PLEASE INFORM THE HREC SO THAT THE DATES OF APPROVAL CAN BE ADJUSTED ACCORDINGLY***

**REMARK:**

**CHAIRMAN: PROF. (MRS) A.N. OFILI** **SIGNATURE & DATE**..... 7/7/2025

**SUPERVISOR (S): DR. A. I. OBI**

**DECLARATION BY INVESTIGATOR(S):**
**PROTOCOL NUMBER (please quote in all enquiries)**
**Note that no participant accrual or activity related** to this research may be conducted outside of these dates. All informed consent forms used in this study must carry the HREC assigned number and duration of HREC approval of the study. In multiyear research, endeavor to submit your annual re-port to the HREC early in order to obtain renewal of your approval and avoid disruption of your research. No changes are permitted in the research without prior approval by the HREC except in circumstances outlined in the Code. The HREC reserves the right to conduct compliance visit your research site without previous notification

Original copy Collected by me 9/7/25

**Signature & Date**.....