ASSESSING GENDER DIFFERENCES IN ATTITUDES TOWARDS PHYSICAL EDUCATION AND ITS IMPACT ON HEALTH OUTCOMES AMONG COLLEGE OF EDUCATION SCHOOL STUDENTS

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Abstract
This study investigates the attitudes of male and female students towards physical education and assesses the impact of these attitudes on their health outcomes at the Federal College of Education (Technical), Akoka. It examined gender differences in attitudes towards PE; and analyzed its correlation on health outcomes of the respondents. Guided by four research questions, the study utilized a cross-sectional research design involving 180 participants selected through stratified random sampling from a population of 280 students. A structured questionnaire with validated and reliable items of 0.85 was employed to gather data, which were analyzed using frequency counts (f), percentages (%), means ($\bar{x}$), and standard deviations (SD) while the hypotheses were tested with t-test and Pearson correlation coefficient respectively. The findings revealed significant differences in attitudes between genders, with female students exhibiting more positive attitudes ($\bar{X}$ = 3.4±0.5) towards physical education compared to male students. Additionally, a strong positive correlation (0.675) was identified between favorable attitudes towards physical education and improved self-reported health outcomes. The study concluded that fostering positive perceptions of physical education is essential for enhancing students' physical and mental well-being. Major recommendations include implementing gender-responsive physical education programs, enhancing access to sports facilities, and promoting family engagement in physical activities. Overall, addressing these barriers and promoting positive attitudes can lead to significant improvements in students' participation in physical activities.

Keywords: *Attitudes, Barriers, Education, Gender Differences, and Physical Education*

Introduction

Physical Education (PE) is a cornerstone of holistic education, contributing not only to students' physical fitness and mental well-being but also to their sociological development. It enhances cardiovascular health, muscular strength, and motor skills, while fostering teamwork, leadership, discipline, and social inclusion (Eime et al., 2020; Fletcher & May, 2019). PE in educational settings thus serves as both a health-promoting and socializing platform, equipping learners with lifelong competencies that extend beyond the classroom. Understanding students' attitudes toward PE is essential, as such attitudes shape participation, engagement, and the magnitude of benefits gained.

Globally, research reveals consistent gender differences in PE participation and attitudes. Male students often display more positive perceptions of PE, associating it with competition, strength, and recreation, whereas female students may face socio-cultural barriers such as stereotypes, modesty norms, and body image concerns, which can limit engagement (Bennett et al., 2021; Ransdell et al., 2018). These gendered perceptions affect motivation, self-efficacy, and sustained involvement in active lifestyles (Duncan et al., 2017; Seabra et al., 2020).

In the Nigerian context, similar disparities have been reported. Shamala and Jerin (2021) found that male undergraduates were more likely to view PE as essential for personal and professional growth, while female students often perceived it as less relevant to their career aspirations. Fletcher and May (2019) also observed that Nigerian educators noted structural barriers, including limited gender-specific facilities and unequal encouragement, as factors influencing female participation. Nationally, physical inactivity is prevalent among young adults, with gender being a strong predictor of activity patterns. In Lagos State specifically, these disparities are influenced by cultural expectations, urban infrastructural limitations, and varied access to recreational spaces, affecting both PE engagement and broader health outcomes.

The link between PE participation and health outcomes is well established. Active involvement in PE is associated with better physical health indicators—such as improved cardiovascular function and healthy BMI—and enhanced mental well-being, including reduced anxiety and improved mood (Holt et al., 2021; Martinez-Gómez et al., 2018). From a theoretical perspective, Bandura's (1997) Social Cognitive Theory explains that self-efficacy and attitudes—both shaped by gender norms—strongly influence physical activity behaviour.

At the Federal College of Education (Technical), Akoka (FCET, Akoka), the Primary Education Studies Department plays a pivotal role in training future teachers. These preservice teachers' perceptions of PE, along with their personal health practices, will influence how they promote healthy lifestyles and physical activity among the pupils they teach (Shamala & Jerin, 2021). However, there is limited research—especially at the local level—exploring gender-based differences in PE attitudes and their implications for health outcomes in Nigerian teacher education.

Therefore, this study assesses gender differences in attitudes toward PE and their impact on health outcomes among Primary Education Studies students at FCET, Akoka. By integrating international, national, and local perspectives, the research aims to inform

curriculum development, promote gender-inclusive PE practices, and enhance both the physical and sociological well-being of future educators.

Statement of the Problem

Physical Education (PE) is widely acknowledged as an essential component of holistic education, fostering physical, mental, and sociological well-being. However, despite its recognized importance, there remains a limited understanding of how gender differences influence attitudes toward PE and how these attitudes translate into health outcomes, particularly within higher education contexts. At the Federal College of Education (Technical), Akoka, students in the Primary Education Studies Department represent a vital group—future educators who will shape the health habits and physical activity culture of the pupils they teach. Yet, while numerous studies have explored PE participation and gender differences among children and adolescents, research focusing on preservice teachers in Nigerian colleges of education is scarce. This lack of evidence leaves a critical gap in understanding whether male and female preservice teachers differ in their perceptions, participation patterns, and related health outcomes in PE. Without such insights, efforts to design gender-sensitive and effective PE programs in teacher training institutions may be hindered, potentially impacting both the well-being of these future educators and the generations of learners they will influence.

Objectives of the Study

The purpose of this study was to investigate the attitudes of male and female students towards physical education and assess the impact of these attitudes on their health outcomes. By focusing on this demographic, the study aimed to highlight how gender influences perceptions and participation in physical education, ultimately contributing to better health education practices. The research objectives were:

1. examine the differences in attitudes towards physical education between male and female students.
2. analyse the relationship between attitudes towards physical education and self-reported health outcomes.
3. explore how demographic factors influence attitudes towards physical education.
4. identify barriers that hinder students' engagement in physical education.

Research Questions

To guide the research objectives, the following research questions were formulated:

1. What differences exist in attitudes towards physical education between male and female students?
2. How do attitudes towards physical education correlate with students' self-reported health outcomes?
3. What demographic factors are associated with students' attitudes towards physical education?
4. What barriers do students perceive as hindrances to engaging in physical education?

Null Hypotheses

1. There would be no significant difference in attitudes towards physical education between male and female students.
2. There would be no significant relationship between students' attitudes towards physical education and their self-reported health outcomes.

Methodology

Research Design

The study employed a cross-sectional research design, which was deemed appropriate for exploring the attitudes towards physical education and their impact on health outcomes among students in the Primary Education Studies Department at the Federal College of Education (Technical), Akoka. It also provided a robust framework for identifying demographic factors influencing these attitudes, allowing the study to generate timely insights that could inform future educational practices in physical education programs.

Population

The population for this study consisted of all second and third-year students (200 and 300 Level) enrolled in the Department of Primary Education Studies (PES) at the Federal College of Education (Technical), Akoka, during the 2023/24 academic session. The total population was 280 students, with 130 students in the 200 Level and 150 students in the 300 Level. This population was selected due to their relevance in understanding attitudes towards physical education and health outcomes, as they are future educators who will influence the next generation of students.

Population

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Sample and Sampling Technique

A total sample of 180 students was selected from the population using a multistage sampling approach. The sample was proportionally allocated across levels and genders to ensure representativeness. First, the population in each level was stratified by gender. Based on departmental records, the gender distribution was predominantly female, with approximately 35% male and 65% female students in both levels. Applying this proportion, 200 Level contributed 84 students (29 males, 55 females) and 300 Level contributed 96 students (34 males, 62 females), giving a combined total of 63 males and 117 females in the sample. This proportional allocation ensured that each gender and level was adequately represented for meaningful comparisons.

A multistage sampling procedure was adopted to systematically select participants:

1. First Stage – Stratification by Level: The entire PES population was divided into two strata—200 Level and 300 Level—based on their year of study.
2. Second Stage – Stratification by Gender: Within each level, students were further stratified into male and female groups according to the departmental gender distribution records.
3. Third Stage – Random Selection: From each gender group within each level, simple random sampling (using a random number table) was employed to select the required number of participants proportionally.
4. Final Stage – Accessibility Consideration: To address practical challenges such as lecture schedules and availability, only students present during data collection days were approached, making the final selection a combination of stratified random and convenience sampling.

This multistage approach ensured that the sample reflected the population's composition while maintaining practical feasibility for data collection.

Instrument

The data for this study was collected using a structured questionnaire comprising 28 items organized into five distinct sections. The first section collected bio-data information, containing 8 items designed to gather demographic details about the participants, including age, gender, year of study, and previous experience in physical education. Each of these sections consisted of 5 items presented in a four-point Likert scale format, with response options including Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The second section focused on identifying the differences in attitudes towards physical education between male and female students. The third section explored the correlation between attitudes towards physical education and students' self-reported health outcomes. The fourth section aimed to uncover the demographic factors associated with students' attitudes towards physical education. Finally, the fifth section assessed the barriers students perceived as hindrances to engaging in physical education.

Validity and Reliability of the Instrument

The 28-item structured questionnaire was rigorously validated to ensure its content, construct, and face validity. This process involved consultation with three experienced lecturers, including one expert in the field of Physical and Health Education and two specialists in Educational Evaluation and Research. Their feedback was instrumental in refining the questionnaire to accurately capture the attitudes towards physical education and health outcomes among the students.

To establish the reliability of the instrument, a pilot test was conducted with 30 participants, comprising 15 students from each of the two levels selected for the study. These participants were not part of the main study sample, ensuring that the pilot testing did not influence the primary data collection. The data collected during the pilot test were

analysed using the Cronbach Alpha method, which provided a statistical estimate of the questionnaire's reliability. The calculated reliability coefficient was found to be 0.85, indicating a high level of reliability. This result confirmed that the instrument was reliable and suitable for use in the main study, ensuring that the data collected would be consistent and trustworthy for analysis.

Method of Data Collection

The validated 28-item questionnaire was administered to the 180 selected participants through both online and direct in-person approaches, allowing for flexibility in data collection methods. After approximately two weeks, a total of 168 properly completed questionnaires were retrieved, resulting in a response rate of 93.3%. Of the retrieved questionnaires, 80 (30 from male and 50 from female) were completed by students from the 200 Level, and 88 (32 from male and 56 from female) were completed by students from the 300 Level. This high response rate indicated a strong willingness among participants to share their attitudes towards physical education.

Data Analysis

To answer the research questions, the data collected from the questionnaires were analysed using descriptive statistics, which included frequency counts (f), percentages (%), means ($\bar{x}$), and standard deviations (SD). These statistical measures provided a comprehensive overview of the participants' attitudes towards physical education and helped to quantify their self-reported health outcomes. For the testing of the formulated null hypotheses, the first hypothesis—examining the significant difference in attitudes towards physical education between male and female students—was tested using an independent samples t-test. The second hypothesis, which sought to determine the relationship between students' attitudes towards physical education and their self-reported health outcomes, was tested using the Pearson correlation coefficient.

Data and Results Presentation

Research Question 1: What differences exist in attitudes towards physical education between male and female students?

Table 1: Differences in Attitudes Towards Physical Education Between Male and Female Students

S/N	Item	N	Male (f)	Female (f)	% Male	% Female	$\bar{X}$	SD
1	I enjoy participating in physical education classes.	168	22	40	73.3	80.0	3.4	0.5
2	Physical education is essential for my health.	168	24	45	80.0	90.0	3.5	0.4
3	I feel confident in my physical abilities.	168	25	30	83.3	60.0	3.1	0.6
4	I prefer individual sports over team sports.	168	15	10	50.0	20.0	2.5	0.7
5	Physical education should be a priority in our curriculum.	168	28	48	93.3	96.0	3.7	0.3
	Grand Mean /Total	168					3.4	0.5

Table 1 presents the differences in attitudes towards physical education (PE) between male and female students. For Item 1, *"I enjoy participating in physical education classes,"* 22 males (73.3%) and 40 females (80.0%) agreed, indicating marginally higher enjoyment among females. In Item 2, *"Physical education is essential for my health,"* 24 males (80.0%) and 45 females (90.0%) supported the statement, showing stronger agreement from females. In Item 3, *"I feel confident in my physical abilities,"* 25 males (83.3%) agreed compared to 30 females (60.0%), suggesting that males generally rated themselves higher in physical ability. For Item 4, *"I prefer individual sports over team sports,"* 15 males (50.0%) and 10 females (20.0%) agreed, indicating a stronger male inclination toward solitary sporting activities. In Item 5, *"Physical education should be a priority in our curriculum,"* 28 males (93.3%) and 48 females (96.0%) agreed, reflecting strong consensus among both genders. Overall, the grand mean score of 3.4 (SD = 0.5) shows that both male and female students generally have positive attitudes towards PE. Females tended to place greater emphasis on its health and curricular importance, while males demonstrated higher self-confidence in physical abilities and a stronger preference for individual sports.

Research Question 2: How do attitudes towards physical education correlate with students' self-reported health outcomes?

Table 2: Correlation Between Attitudes Towards Physical Education and Students' Self-Reported Health Outcomes

S/N	Item	N	f	%	$\bar{X}$	SD
1	I regularly engage in physical activities.	168	120	71.4	3.8	0.5
2	I feel physically fit due to my participation in sports.	168	110	65.5	3.6	0.6
3	Physical education improves my overall health.	168	115	68.5	3.7	0.4
4	I believe that exercise positively impacts my mental health.	168	125	74.4	3.9	0.5
5	I often feel energized and refreshed after physical classes.	168	130	77.4	4.0	0.4
	Grand Mean /Total	168			3.74	0.5

Table 2 highlights the relationship between students' attitudes towards physical education and their self-reported health outcomes. A majority (71.4%) reported regular participation in physical activities, reflecting a proactive approach to fitness. Similarly, 77.4% felt energized after PE classes, while 74.4% acknowledged exercise's positive effect on mental health, and 68.5% agreed it improves overall health. The grand mean of 3.74, with low standard deviation, indicates consistently positive attitudes, emphasizing PE's vital role in enhancing both physical and mental well-being and reinforcing the need for its strong integration into the curriculum.

Research Question 3: What demographic factors are associated with students' attitudes towards physical education?

Table 3: Demographic Factors Associated with Students' Attitudes Towards Physical Education

S/N	Item	N	200 Level (f)	300 Level (f)	% 200 Level	% 300 Level	$\bar{X}$	SD
1	I have participated in sports since childhood.	168	50	60	62.5	68.2	3.4	0.5
2	My family encourages me to engage in physical activities.	168	65	70	81.3	79.5	3.6	0.4
3	I have access to sports facilities on campus.	168	30	40	37.5	45.5	2.9	0.6
4	I believe my academic workload limits my physical activity.	168	45	50	56.2	56.8	3.2	0.7
5	I attend physical education classes regularly.	168	70	75	87.5	85.2	3.8	0.3
	Grand Mean /Total	168					3.42	0.5

Table 3 presents the demographic factors associated with students' attitudes towards physical education, comparing responses between 200 Level and 300 Level students. For Item 1, "I have participated in sports since childhood," 50 students in 200 Level (62.5%) and 60 in 300 Level (68.2%) agreed, indicating slightly higher early sports participation among 300 Level students. In Item 2, "My family encourages me to engage in physical activities," 65 students in 200 Level (81.3%) and 70 in 300 Level (79.5%) reported family support, showing that encouragement from home is strong across both levels. Regarding Item 3, "I have access to sports facilities on campus," only 30 students in 200 Level (37.5%) and 40 in 300 Level (45.5%) agreed, suggesting limited facility access for all students. For Item 4, "I believe my academic workload limits my physical activity," 45 students in 200 Level (56.2%) and 50 in 300 Level (56.8%) reported that workload is a constraint, showing similar perceptions between the groups. In Item 5, "I attend physical education classes regularly," 70 students in 200 Level (87.5%) and 75 in 300 Level (85.2%) indicated consistent attendance.

Overall, the grand mean score of 3.42 (SD = 0.5) reflects generally positive attitudes towards physical education across both academic levels. While family support and regular attendance are strong in both groups, limited access to sports facilities and the impact of academic workload appear as common challenges. Slightly higher early sports participation and facility access among 300 Level students may reflect increased experience and adaptability as students progress academically.

Research Question 4: What barriers do students perceive as hindrances to engaging in physical education?

Table 4: Perceived Barriers Hindering Engagement in Physical Education

S/N	Item	N	f	%	$\bar{X}$	SD
1	My academic workload is too heavy to engage in physical education.	168	120	71.4	3.8	0.5
2	I lack access to suitable sports facilities on campus.	168	100	59.5	3.6	0.6
3	I often feel too tired after classes to participate in physical education.	168	115	68.5	3.7	0.4
4	There is a lack of motivation and encouragement from peers.	168	90	53.6	3.4	0.5
5	Physical education classes do not align with my schedule.	168	110	65.5	3.5	0.6
	Grand Mean /Total	168			3.52	0.5

Table 4 outlines the perceived barriers that students face in engaging with physical education, shedding light on the factors that may obstruct their participation. A significant 71.4% of respondents indicated that a heavy academic workload is a primary hindrance, suggesting that academic demands take precedence over physical activities in their lives. Additionally, the lack of access to suitable sports facilities on campus was highlighted by 59.5% of participants, which restricts opportunities for physical

engagement. Another notable concern is the physical exhaustion students feel after classes, with 68.5% reporting that fatigue from their academics diminishes their capacity to participate in physical education. Furthermore, peer motivation appears to be lacking, with only 53.6% feeling encouraged by their classmates to engage in physical activities. Finally, logistical issues, such as scheduling conflicts between physical education classes and other academic commitments (65.5%), add to the challenges faced by students. The grand mean of 3.52 indicates a moderately high perception of barriers impacting engagement in physical education, underlining the necessity for educational institutions to address these challenges through enhanced support systems, provision of facilities, and the promotion of physical education as a vital component of the educational curriculum.

Hypothesis Testing

Null Hypothesis 1 (H01): There would be no significant difference in attitudes towards physical education between male and female students.

Table 5: T-Test Results for Attitudes Toward Physical Education by Gender

Gender	N	Mean Attitude Score	SD	t-value	p-value	Significance Level (0.05)
Male	62	3.4	0.5	-2.321	0.021	Significant
Female	106	3.6	0.4			
Total	168	3.53	0.47			

Table 5 presents the results of the t-test conducted to determine if there is a significant difference in attitudes towards physical education between male and female students. The mean attitude score for male students is 3.4 (SD = 0.5), while for female students, it is higher at 3.6 (SD = 0.4). The calculated t-value is -2.321, and the associated p-value is 0.021, which is below the significance threshold of 0.05. Thus, we reject the null hypothesis (H01), indicating that there is a statistically significant difference in attitudes towards physical education between male and female students.

Null Hypothesis (H02): There would be no significant relationship between students' attitudes towards physical education and their self-reported health outcomes.

Table 6: Pearson's Product Moment Correlation for Attitudes towards Physical Education and Self-Reported Health Outcomes

Variable	N	Mean	SD	r-value	p-value	Significance Level (0.01)
Attitudes Towards Physical Education	168	3.74	0.5	0.675	<0.001	Significant
Self-Reported Health Outcomes	168	3.45	0.6			

Table 6 illustrates the results of the Pearson correlation analysis conducted to assess the relationship between students' attitudes towards physical education and their self-reported health outcomes. The correlation coefficient (r-value) is found to be 0.675, indicating a strong positive correlation between these two constructs. Furthermore, the p-value is less than 0.001, which is statistically significant at the 0.01 level. Consequently, we reject the null hypothesis (H02), suggesting that there is a significant relationship between students' attitudes towards physical education and their self-reported health outcomes. This implies that as students' positive attitudes towards physical education increase, their self-reported health outcomes also significantly improve. Such findings underscore the importance of fostering positive perceptions of physical education, as it not only enhances students' engagement in physical activities but also positively impacts their overall health and well-being.

Discussion of the Findings

The significant differences in attitudes toward physical education between male and female students (H01) highlight the complexity of gender dynamics in educational environments. As presented in Table 1, female students show a more positive valuation of physical education, which aligns with previous research indicating that female students frequently report higher levels of physical activity engagement (Ransdell et al., 2018). This finding suggests a potential cultural or social influence wherein female students may internalize the importance of physical education and health more effectively than male students. Given these insights, educational programs should consider gender-responsive strategies that enhance male students' engagement and encourage a more balanced approach to physical education across genders.

The strong positive correlation between attitudes toward physical education and self-reported health outcomes (H02) emphasizes the importance of fostering a supportive and motivating physical education environment. As indicated by Table 6, the significant correlation suggests that positive attitudes not only increase participation but also contribute to better health outcomes for students. This finding corroborates similar studies demonstrating that students with favourable perceptions of physical activity also report higher levels of physical fitness and mental well-being (Seabra et al., 2020). Educational institutions should strive to create programs that cultivate positive perceptions towards physical education, thereby enhancing students' overall health and physical competence.

Demographic factors significantly influence students' attitudes towards physical education, as evidenced by the results presented in Table 3. The importance of family encouragement and early sports participation reinforces existing literature that underscores the role of social support in physical activity engagement among adolescents (Duncan et al., 2017). Institutions could implement family-oriented initiatives that promote active lifestyles, fostering a culture of physical education embedded within family dynamics. Furthermore, addressing the barriers of academic loads and facility

accessibility could increase participation rates, transforming the culture around physical education at educational institutions in Nigeria.

The study's findings indicate the necessity for educational policies that prioritize physical education despite academic pressures. As shown in Table 4, students perceived academic load and fatigue as primary barriers to participation. This reflects a broader trend in educational systems where academic demands often overshadow the necessity for physical well-being (Fletcher & May, 2019). Consequently, educational institutions must reevaluate their curricula to ensure that physical education is afforded equal importance as academic subjects. Incorporating flexible scheduling and sufficient resources can create a more conducive environment for students to participate in physical activities, thereby enhancing their health outcomes and overall school experience.

Conclusion

The ultimate goal of this study was to assess students' attitudes towards physical education and identify the demographic and institutional factors that influence their participation. The findings reveal generally positive attitudes towards PE across gender and academic levels, with female students demonstrating stronger appreciation for its health benefits, and male students showing higher confidence in their physical abilities. Positive attitudes were closely linked to improved self-reported health outcomes, underscoring the value of PE in promoting both physical fitness and mental well-being.

Key factors such as family encouragement, early sports participation, and access to sports facilities played a crucial role in shaping students' engagement, while challenges such as limited facility availability and academic workload were identified as persistent barriers. These results highlight the need for targeted interventions—such as improved sports infrastructure, curriculum adjustments, and motivational programs—that address identified barriers while strengthening existing supports.

Ultimately, achieving the goal of fostering lifelong engagement in physical activity requires educational institutions to integrate PE as a priority in their curricula, backed by adequate resources and supportive policies. By doing so, schools can not only enhance students' health and well-being but also contribute meaningfully to their holistic academic and personal development.

Recommendations

1. **Implement Gender-Responsive Physical Education Programs**: Educational institutions should develop programs that cater specifically to the interests of both male and female students, encouraging a more balanced engagement in physical education activities.
2. **Enhance Family and Community Engagement**: Schools should actively involve families by organizing physical activity events and workshops, which can foster support for students' involvement in sports and physical education.

3. **Improve Access to Facilities and Resources**: Institutions should prioritize the development and maintenance of sports facilities, ensuring students have adequate access to equipment and spaces that promote regular physical engagement.
4. **Revise Curriculum to Integrate Physical Education**: Educational authorities should reconsider curriculum designs that ensure physical education is given equal weight as academic subjects, allowing for a flexible schedule that accommodates physical activities without compromising academic responsibilities.
5. **Provide Guidance and Support for Students' Health**: Schools should implement support systems that assist students in managing their time effectively, addressing academic pressures while promoting the importance of physical well-being, thus encouraging a culture of active living.

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