

Students Perception of the Impact of Gender on Students' Academic Performance at Post-Secondary Education: The Case of Air Force Institute of Technology (AFIT) Kaduna

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doi: <https://doi.org/10.37745/bje.2013/vol12n111331> Published September 14, 2024

Citation: Ubabudu M.C. (2024) Students Perception of the Impact of Gender on Students' Academic Performance at Post-Secondary Education: The Case of Air Force Institute of Technology (AFIT) Kaduna, *British Journal of Education*, Vol.12, Issue 11,13-31

ABSTRACT: *The research examined student perception of the impact of gender on their academic performance at the Nigerian Air Force Institute of Technology (AFIT) Kaduna from 2021 to 2022. One research question and questionnaire named the Gender and Academic Performance Scale (GAPS) guided the study. This is an ex-post-factor research design with a target population of 2089 AFIT degree undergraduates in four faculties where proportionate sampling techniques were used in drawing 210 students (respondents) based on a convenience approach, and only 145 of the GAPS were retrieved. The reliability and validity of the GAPS were ascertained with internal consistency Cronbach alpha values of 0.88. Statistical methods used were frequencies and independent t-tests. The results showed that female students outperform male students in AFIT. One of the recommendations was that AFIT should adhere strictly to an inclusive and diverse screening merit-based admission policy of students rather than on “gender biases”.*

KEY WORDS: gender, academic performance, post-secondary education, AFIT

INTRODUCTION

Education is the whole gamut of imparting lifelong learning skills, reflective learning, shared knowledge, morals, values, and beliefs through effective pedagogical teaching and learning delivery as well as holistic evaluation in self-awareness, relationships, problem-solving skills, emotional, cultural intelligence, creativity, to support individual learners (students) of diverse origins develop their latent potentials, academic, physical, emotional, social, and moral capacities. Nigeria will produce graduates who will be

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self-sufficient and continue to make meaningful contributions to the general well-being of society if its educational system is functioning (Ubabudu,2022).

This is because education is the key component of everything that functions and is the most valuable resource in the advancement of any country. It catalyzes information access, knowledge acquisition, skill development, wealth generation, and issue-solving for any country (Ubabudu and Muraina,2016.). This calls to mind Montessori's 1949 famous quotes in her book, "The Absorbent Mind" which is apt and relevant in this study to know and learn from it that," the child is endowed with unknown powers, which can guide us to a radiant future. If what we want is a new world, thus, education must be the goal to the development of these hidden possibilities" (Montessori, 1949 p.4). This linkage of a child to education and the future is a true picture of what post-secondary educational institutions should strive to attain and do and what is expected of them considering where the world is going today for its continued existence and sustainability.

Given this background, post-secondary educational institutions also called tertiary institutions or University education are the first recipients of these secondary school products or goods. Consequent upon this is expected to be ideal and reckoned with in all ramifications as far as the shaping, rearing, upbringing, and molding of these young minds are concerned for them to realize themselves, be responsible human beings, and be ready to contribute in the socioeconomic development of the country. This further elucidates why university education is perceived as of utmost importance in improving the lives of individuals and allowing societies to develop and blossom (Owan, Ameh, and Ubabudu,2021). Tertiary education is no doubt the gateway to developing societal human capital. (Ubabudu,2023). This likely contributes to Uchendu's (2024) claim that postsecondary education embodies the necessary conditions for achieving national development.

Arising from these articulations, it has become clear that, all effective educational institutions, whether primary, secondary, or postsecondary education, aim at producing creative and dynamic graduates who can integrate all the pedagogical and environmental knowledge, skills, and competencies they have learned and acquired from the different levels of education to better themselves and contribute meaningfully to their nation at large. Ubabudu (2023) supports this by emphasizing the imperative to continue to groom the kind of workforce that will remain relevant and productive in the various sectors of the economy since it is one of the major reasons why institutions of higher learning have continued to spring up.

In the words of Obizue and Obizue (2018), every level of education is set with the goal of graduating learners that will adequately fit into the next level and this can be possible when the said Learners realize the purpose of education and tend to study hard and achieve the required high performance with a good grade and certificate. Consequently, it is sufficient to say that tertiary institutions would have to go all out to admit students with excellent results in WAEC and JAMB to have students of high academic

Publication of the European Centre for Research Training and Development-UK performance and standards. This effort should be gender-neutral (Obizue and Obizue,2018). Ultimately, this should be the focus of every meaningful institution because once there is a sense of purpose and focus, the country will have a functional educational system that exhibits efficiency and effectiveness in all its post-educational institutions.

When this is judiciously done, it will display the overall quality of the students and graduates of post-education and their employability capability to be captains of industry and employers of labour as well as their functionality rather than job seekers. According to Ubabudu (2024) to be employable in the current world where digital, information, and communication technology detect the tune, demands that relevant skills and experience be learned by university students in Nigeria and beyond. This is validated by the assertion of Onye and Obizue (2020) that the functionality of the products of our colleges and universities is a determinant of the quality of our educational system as a nation.

Poor quality education is widely acknowledged to have some adverse effects on student's academic performance, poor lifestyle choices, professional growth and development, and general well-being, which will conversely affect the growth and development of the country. Particularly when some students perform well to enhance society and themselves and others perform poorly to instigate others' discontent, anarchy, and annoyance in the neighbourhood. It would undoubtedly result in unemployment and other vices like theft, abduction, half-baked students, lawlessness, mischief, nuisance, and insecurity which will generally cause a security breach and retard socioeconomic development.

Irvine Crowley (2013) advocated that a knowledge-based society or the 21st Century society is one in which its members, through Lifelong learning, share innovations and expertise within a community of experts and non-experts, in the spirit of apprenticeship. According to Uchendu (2024), the knowledge economy is known to have a positive impact on the education system due to its emphasis on scientific and technological development as well as the attendant human capital production. It is expected that these students, having received an all-around integrated education and holistic evaluation that has prepared them to be self-sufficient, morally upright, and ecologically conscientious future global citizens, would be successful and efficient ambassadors of their alma mater upon graduation. Students are the most important resource in every educational institution because they are the ultimate prepackaged asset and operate as both a stimulus, catalyst, and an indicator of academic success based on their performance.

Supporting this, Ozcan (2021) affirmed that there is evidence to support the notion that students are vital components of the educational system and are often seen as society's future in the developmental processes. This may help to provide evidence as to why educational establishments, especially those in the post-secondary sector, spend money on outreach, technology, and research to give future students the cutting-edge abilities and information communication they need to manage risk and uncertainty and be able

Publication of the European Centre for Research Training and Development-UK to create resilient societies. Moreso, the reasons why a student's capacity to progress socioeconomically is impacted by their academic performance in addition to their future professional and lifestyle decisions.

Mintzberg and Mintzberg (2023) posited that every prosperous organization is sensed as a community of people and not merely the repository of human capital hence schools are institutions of mind and heart, reflecting people's lives, values, and faith. In the middle of the "looking on" syndrome, this explains why any promising and forward-thinking post-secondary education tertiary institution needs to embrace a "looking out" mentality that combines positive change and collaborates with others in the 21st-century world of experiential learning and high technology that aligns global best practices of today's technologically advanced world. This implies that clinging to the "looking on" mentality of the past and 'traditional classroom rituals' of the past in teaching and learning as well as in the assessment of student's academic performance, insisting that one's institution is the greatest or most superior and do it the way it is done thus, resisting change is insufficient in today's digital economy of information and communication technology. After all, no one would want to fall behind the digital divide.

Corroborating this statement, Mintzberg and Mintzberg (2023) affirmed the need for universities in the 21st century to integrate the "looking out" and "looking on" models into a cohesive whole when it comes to research, dissemination, and instruction. To this end, Sawahel (2023) remarked that the world is radical and mercurial, demanding thinkers who can flourish in rapid change. A greater emphasis on accountability, performance, and quality is just one of the many changes that characterize most post-secondary education. Other changes include increased internetization, competition, and signaling mechanisms, mass expansion, and enrollment, new players entering the market, more diverse student bodies, profiles, and programs at universities, rising costs, pressures, new funding sources, and new forms and functions of governance (OECD, 2012).

This reality explains why almost all parties and institutions including parents, teachers, students, government officials, and other stakeholders are concerned about the intellectual achievement of these students in the educational system, especially in post-secondary education. This is necessary because the cutting-edge variables of technology, globalization, talent, cultural diversity, and ethics are constantly shaping and influencing the educational landscape and post-secondary educational institutions are inclusive. Technology allows educators to assess a student's progress far more regularly than is possible with traditional classroom assessments and to identify and address each student's challenges as they arise (Irvine and Crowley, 2013).

One of the key elements influencing a university's ability to produce graduates of high caliber is its academic performance (Jacob, et al., 2016). As a result, a detailed performance evaluation of all factors influencing the ongoing academic activities must be completed. The values established by both internal and external stakeholders must

Publication of the European Centre for Research Training and Development-UK serve as the assessment's compass. Therefore, postsecondary educational institutions must evaluate students' performance, which includes their inputs, procedures, and outcomes (Hadi., et al.,2022). According to Irvine and Crowley (2013), measurement and assessment should not just be a tool to help the student learn but also to measure achievement for those outside the educational system and potential employers.

The need for this research study is further highlighted by the observation that gender-related issues frequently constitute the primary cause of some student's poor academic performance at Nigeria's post-secondary educational institutions. Accordingly, gender is considered in this research as an independent variable that may likely affect student academic performance which is the dependent variable in this study and post-secondary education is the main focus of this study. For this reason, it is critical to determine whether gender affects students' academic performance in the Air Force Institute of Technology (AFIT) Kaduna.

Gender refers to the socio-cultural, personal, and physical features of being a male or female. It is important to understand that gender is a spectrum that is identified and expressed in diverse ways. Onye and Obizue (2020) averred that gender connotes all the roles, behaviours, and traits that society deems appropriate and expects of male and female individuals. According to Obizue and Obizue (2018), respecting and acknowledging gender diversity is very crucial in order to understand and promote inclusiveness in an educational setting. Gender relations are the relationships between men and women and they vary depending on society (Orji, et.al., 2021). More importantly, males and females are different genders of distinct sociocultural backgrounds in line with the observation that gender-related issues frequently constitute the primary cause of students' poor academic performance in Nigeria's Post Secondary Education which inspired this empirical research study in order to determine the extent of gender impact on student academic performance at AFIT.

Already, there is this widespread social misconception that male students are more intellectual than females, and because of that, the females do not need education because they will marry into a different family and take on their spouse's surname, which will prevent them from inheriting their father's last name or property. Also, some believe that the size of a man's brain is greater than that of a woman and that women can easily drop out of school and get married. Corroborating this, Owan, Ameh, and Ubabudu (2021) averred that the procedures of student enrolment encourage more male enrollment than their female counterparts in the university system. Consequently, it dissuades the participation of women in university education thereby invalidating the principle of equal opportunities for education as laid down in Section 18(1) of the 1999 Nigerian Constitution (as amended) (Owan, et.al.,2021). This implies that males had a higher enrolment rate across federal universities (Owan, et. al,2021) than females.

All these misconceptions have likely resulted in the mentality that male students could be more intelligent and will likely perform better in academics than their female counterparts (Lynn, 2004). In contrast, Mackintosh (1998) revealed in his study that

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there is no sex difference in total intellectual ability. In the same vein, Asif, Safdar, and Ali (2020), Kisigot, Ogula, and Munyua (2020) and Siddiky and Haque (2024) observed that gender affects student academic performance. In light of this, AFIT is a tertiary institution with a tripartite role as a university under the National Universities Commission (NUC), a polytechnic under the National Board for Technical Education (NBTE), and a military school for military personnel training. The institution is expected to be an inclusive educational setting that admits and graduates students of diverse genders and origins as long as they meet the prescribed and regulatory bodies' criteria, and the school's admission and certification requirements respectively.

With this, AFIT is expected to foster a healthy relationship between male and female students in order to develop a crop of world-class hybrid students who can compete favorably in the national and global labour market economy. In addition, as a recently established Federal government post-secondary education, parents, and educators are all curious about the return on education investment. Particularly, how well the emergent university will prepare and produce students who are well grounded in character, skills (both soft and hard skills), and pedagogical learning fitting in tandem with the twenty-first-century global best practices market demands and ideals. AFIT hopes to rank among the best post-secondary education in Nigeria in light of this irrespective of her students' gender composition. No research work has been conducted on gender and students' academic performance with AFIT Kaduna as a case study hence this particular study is a novelty.

STATEMENT OF THE PROBLEM

In recent times, educational stakeholders have expressed great concern about the poor academic performance of students in Nigerian Post-Secondary Education, and the academic gap is sometimes attributed to gender disparity. Previous scholarly studies observed that some students who were supposed to move to the next level of their studies were retaking courses in the lower classes because they either failed or did not perform well meanwhile some others were advised to withdraw due to their repeated poor academic performance. Obizue and Obizue (2018) observed that in most of the studies on this subject matter, the findings revealed that there is a lack of consensus among the researchers as there is no conclusion regarding the direction of the causes of the student's poor academic performance and whether it is gender-biased or not hence this study in AFIT.

Another factor that makes students somewhat different today is their immersion in and facility with digital technology, and in particular social media: instant messaging, twitter, video games, Facebook, and a host of other applications (apps) that run on a variety of mobile devices such as iPads and mobile phones. This research study is essential since the students in question are frequently observed to come to classes late and are always seen using their phones for entertainment purposes, skipping lectures, dozing off during lectures, and showing a lack of interest in their studies that might

Publication of the European Centre for Research Training and Development-UK basically affect their academic performance, therefore, making this empirical research necessary.

To the best of the researcher's knowledge, the Air Force Institute of Technology lacks academic research in this area of study at the time of writing this empirical research paper. The only available data comes from the study of Ubabudu, et. al. (2022) on the effects of nine variables on students' academic performance in which gender was not used as a variable in that study. Due to these factors, the current research study becomes significant, unique, and remarkable to close a gap in the literature and provide background information amongst others. Hence, the problem of the study is presented in an interrogatory manner: what is students' perception of the influence of gender on academic performance in post-secondary education, especially at AirForce Institute of Technology Kaduna?

PURPOSE OF THE STUDY

The study aims to establish the extent to which gender has influenced students' academic performance in post-secondary education, focusing on students in the faculties of science, computing, engineering, social and management sciences at the Air Force Institute of Technology (AFIT) Kaduna with a view of providing accurate research implication to research that will solve the identified problems and make the nascent university viable and marketable within and to the global world. More specifically, it seeks to add to the body of knowledge by examining the extent to which gender as a predictor variable influences the criterion variable of students' academic performance.

RESEARCH QUESTION

One research question was posed and answered in the study, viz:

1. To what extent does gender affect students' academic performance at Air Force Institute of Technology (AFIT) Kaduna.?

Hypothesis

Null Hypothesis

There is no significant difference between the mean ratings of male and female students on the extent to which gender affects students' academic performance at AirForce Institute of Technology (AFIT) Kaduna.

LITERATURE AND THEORETICAL UNDERPINNING

Concept of Gender and Academic Performance

A population's anatomical, physiological, psychological, and behavioral characteristics that characterize and differentiate them as feminine and masculine are collectively referred to as gender. According to Anderson (2004), Gender is the social attributes and opportunities associated with being a man or a woman, as well as the interactions

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In the view of Orji, et.al. (2021), Gender is part of a broader sociocultural context. Socialization procedures are how these relationships, chances, and traits are learned and developed. Gender will likely have an impact on students' academic performance either directly or indirectly. That being said, parents ought not to send their daughters to school since they will marry and lose their father's last name. However, men do not leave their family homes, which accounts for the higher enrollment of males than females in formal education.

Previous studies in elementary, secondary, and university settings have examined the effects of demographic variables on academic achievement, including age, gender, workload, and home circumstances. Conflicting results have been found regarding the relationships between these demographic factors, particularly gender and academic performance. While some researchers have found no differences, others have suggested that gender plays a significant role which calls for more research given the ongoing decline in students' academic performance in post-secondary education. To validate this fact, a large body of research which includes Noble, et. al. 2007; Barrow, et. al., 2009; and Thiele, et. al., 2016 indicated that male students perform worse than female students. However, there is also contrasting evidence showing that male students perform better than female students (McMillan-Capehart and Adeyemi-Bello, 2008) and a plethora of studies in this field demonstrate that females are not achieving at the same level as their male counterparts in higher education (Becker 2005; Finn 2008, and Erickson, 2009).

There have always been gender differences in education, and most notably, in academic performance although, there are some research studies that show that gender and student academic achievement are not related at all and this was generalized from the assertions of scholars like DeBerard et al. 2004; De Winter, Dodou 2011., Kappe and Van Der Flier 2012., Imran, et.al. 2017 and Orji, 2021). Specifically, a research study conducted in 2021 by Orji, et. al. showed that gender has no appreciable effect on the academic performance of nursing students. Similarly, the research conducted in 2012 by Kappe and Van Der Flier revealed that there is little to no difference between male and female students' academic achievement. According to Imran et al. (2017), there is no association between gender and academic performance among students but there is a strong relationship between academic performance and socioeconomic position proxied by age and money.

Numerous studies have found a significant negative association between age and academic achievement, including those by Clark and Ramsay (1990) and Pantages and

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Creedon (1975). McInnis, James, and McNaught's (1995) research studies found that older students have a better probability of succeeding academically since they have more defined professional goals and fewer integration requirements. Conversely, research by Asif, Safdar, & Ali (2020), Kisigot, Ogula, and Munyua (2020), Siddiky and Haque (2024), and Dlamini (1997) revealed that gender or sex had an impact on students' academic achievement. In their research work, age, gender, completed homework at home, time spent reading in the library, prior academic success, and classroom behavior were all discovered to be important predictors of students' performance. However, according to God Power and Ihenko (2017) in their research paper, gender significantly affected students' interest in Integrated Science but not their academic performance.

Again, in the study conducted by Azu and Afrin (2018), variables like students' place of birth, how many siblings in their families, how much time they spent studying, and how often they went to the library were all positively connected with their academic achievement.

According to Acharya and Joshi (2009), a child's academic motivation may be influenced by the parents' educational background. Getachew (2018) also noted that students from lower socioeconomic backgrounds and or with less affluent parents will likely experience lower achievement. Supporting this, Acharya and Joshi (2009) concur that students from lower socioeconomic backgrounds faced a higher risk of low achievement due to their parents' occupational status which likely might be due to poor parental education and this signifies that home education can have a significant impact on the quality of education provided to students.

STUDENT ACADEMIC PERFORMANCE

Students' academic achievement is the end product of teaching-learning relationships (Ubabudu, 2005). According to Al-Zoubi and Younes (2015), a repertoire of competencies that are acquired in the classroom, in decision-making, and in other domains where individual leadership is necessary is what academic achievement entails. On the other hand, learning achievement is the degree to which an individual can assimilate knowledge acquired during teaching and learning. Similarly, Hadi, et.al. (2017) asserted that student's learning achievement is frequently displayed as symbols, such as letters, numbers, or sentences that indicate the outcomes attained by each student within a given time frame. Performance is a gauge of a product's dependability and quality of operation (Al-Zoubi and Younes, 2015). Academic achievement among students can also be used as a benchmark for comparison between educational institutions with an emphasis on success on a national and international scale (Imran, Afshari, Ghavifekr, and Abd Razak, 2013). This perhaps explains why, comparability and foreign competitiveness of qualifications are often seen as central features of quality education (Babalola, Adedeji and Erwat, 2007).

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Ergen and Kanadli (2017) recommended that one way to organize student performance is to either define performance standards in advance or compare them to the performance of other students. Academic success and accomplishments can be measured by how well students perform on exams and tests (Ubabudu, et.al.,2022). The government, examining bodies, society, educators, and educational institutions use students' academic performance as a benchmark to evaluate the quality of the university and how well students are doing to advance to the next semester and support those who are not meeting the requirements to repeat, be placed on probation, or be asked to withdraw. Higher scores are considered proof of superior academic performance which can be seen as the degree of accomplishment in a given field of study (Egbule, 2004).

POST-SECONDARY EDUCATION

Post-secondary education or tertiary institution is the type of education received after secondary education in colleges of education, polytechnics, mono-technic, universities, and other institutions offering correspondence courses (FRN, 2004). In this perspective, postsecondary educational institutions are implied to be universities that are engines of economic growth dedicated to producing a trained labour force (Ogbogu, 2014) and symbolize the universality of ideas (Moshood and Oshodi, 2018). In light of this, diversity must be taken into account and integrated at the level of people's ideologies, and the creation of knowledge (Moshood & Oshodi, 2018) because knowledge is at the epicenter of improvement in all aspects of human activities (Uchendu,2024).

Federal Republic of Nigeria, National Policy on Education, 2013 pp. 41–42 stated that university education should maximize its contribution to national development and this can be done by;

1. Expanding and changing its initiatives for the training of elite personnel in light of national requirements.
2. Ensuring that professional course content reflects our country's needs;
3. Integrating all students into a general program of comprehensive university education enhancement, including general study courses like nationalism, philosophy of knowledge, history of ideas, and information technology (IT); intensifying and diversifying its programs for the development of high-level manpower within the context of the needs of the nation.
4. Mandating the learning of entrepreneurship skills in all universities in Nigeria

The following are the objectives of tertiary education which these institutions in this category are expected to achieve and the Air Force Institute of Technology (AFIT) as one of them is poised to pursue through selecting and admitting qualified students, providing excellent pedagogical instruction and learning opportunities, and doing research and development:

1. Contribute to national development through high-level manpower training;
2. Provide great education that is both accessible and affordable in formal and informal education in response to the needs and interests of all Nigerians;

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3. Provide high-quality career counseling and lifelong learning programs that equip students with the knowledge and skills for self-reliance and the world of work;
4. Reduce skill shortages through the production of skilled manpower relevant to the needs of the labor market
5. Promote and encourage scholarship, entrepreneurship, and community service;
6. Forge and cement national unity; and
7. Promote national and international understanding and interaction.

Nonetheless, without admitting eligible students who want to pursue their academic aspirations, none of the aforementioned lofty and admirable contributions and goals of a university education may be achieved. A post-secondary education institution's acceptance of a student is believed to include their ability to complete the course for which they are registered. Admitting students who, for whatever reason, have little chance of achieving academically on purpose would be unethical. Accordingly, prerequisites for admission must allow for the execution of valid student selection procedures. Nevertheless, on rare occasions, applications from unsuitable and young candidates are allowed; this will subsequently show up in their poor study habits and academic performance.

Apart from admitting students and providing instructions, these educational establishments also administer tests and other forms of ongoing assessments to students in order to assess their academic performance in line with the final exam and ascertain their passing or failing status for appropriate placement, feedback, diagnostic solutions, record-keeping, guidance and counseling, selection, planning, and enhancement in their programs. This is a way to ensure that educational activities are monitored, and evaluated to ascertain that learning has occurred and that students are receiving a well-rounded education for their future careers, healthy lifestyles, and the socioeconomic advancement of the nation.

Therefore, any educational system's progress and viability depend on determining student academic performance as a dependent variable on gender, a predictive variable. Any educational system must consider the degree to which students learn as a critical performance indicator; without it, it will be difficult to assess the trajectory of education toward sustainability. There can be no sustainable development without quality higher education (Akuegwu, 2014).

Subsequently, this research study aimed to ascertain whether gender influences students' academic performance or other characteristics at the Air Force Institute of Technology Kaduna, Nigeria. The research of Ubabudu, et. al. (2022) on the impact of nine elements of home factors, peer pressure, study habits, learning/classroom attendance, library and information and communication technologies, the school environment, faculty/departmental resources and support, teacher-student interaction, and school management styles is the only documented evidence of prior research on

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factors affecting student academic achievement conducted by academics at the Air Force Institute of Technology, Kaduna.

Gender was not one of the nine variables that Ubabudu, et.al. (2022) examined at that time and this particular fact makes this research study appropriate and timely. Examining AFIT students' academic performance concerning gender is necessary since this variable was not among the nine variables used earlier. It is important to stress this fact since some students continue to perform academically poorly while some perform well in the faculties of science, computing, engineering, social, and management sciences. As attested by Ubabudu, et. al. (2022), there is no doubt that AFIT's superior authorities and certain lecturers have worked hard to improve students' academic performance in the past and present, particularly in monitoring and the lecturers' pedagogical delivery to students. Still, some students' academic performance continues to be abysmally poor. Undoubtedly, students' academic performance is expected to be influenced by their gender, either directly or indirectly in a causal way.

METHODOLOGY

Research Design

This study employs an ex post facto survey research design. The choice of this research design lies in the fact that it will provide the route to success because the research is an empirical investigation into gender disparity and students' academic performance at AFIT.

Population and Sample

The study's targeted population group consisted of 2,098 undergraduate degree students in the four faculties of science, engineering, computer, and social and management sciences at the Air Force Institute of Technology in Kaduna. They were registered in their second and third years in 2021–2022. A proportionate sampling technique was deployed in drawing 210 undergraduate degree students and it is based on a convenient approach representing approximately 10% of the targeted population of students. However, only 145 of the 210 gender and academic performance scale (GAPS) questionnaires administered to the respondents were duly filled and retrieved by the three research assistants engaged by the researcher for it. The GAPS research instrument was utilized to collect the data for this study and was based on the Likert 4-point style. The questionnaire was broken up into 2 sections A and B. Section A, focused on the demography of the respondents, and Section B was based on gender-related issues.

Reliability and Validity of the Instruments

The instruments were validated by three different research experts from the Ahmadu Bello University, Zaria Educational Measurement and Evaluation Department. Items deemed inappropriate were removed and others were reworded before the instruments were put through a reliability test using Cronbach's Alpha, to reveal the range of internal consistency Cronbach alpha values of 0.88 which is valid.

Method of Data Analysis

Mean was deployed in analyzing the research question while a t-test was used to analyse the null hypothesis at a 0.05 significance level. For the remarks, the Mean rating with 2.5 and above was considered high extent, and low extent if it falls below. Furthermore, the p-value falls below 0.05 leading to the rejection of the null hypothesis, and vice versa.

RESULTS AND FINDINGS

Research Question 1: To what extent does gender affect students' academic performance at Airforce Institute of Technology (AFIT) Kaduna?

S/N	As a student, rate the extent to which your gender influences the following dimensions of academic performance:	Mean (Males) N=96	Remark	Mean (Females) N=49	Remark
1.	Effective completion of my home and class works	2.63	HE	2.88	HE
2.	Effective completion of examinations	2.62	HE	2.94	HE
3.	Timely completion and submission of assignments quizzes or tests	2.56	HE	2.87	HE
4.	Attendance to class, reading hours, learning ability, study habits, study habits, learning durations etc.	2.66	HE	3.04	HE
5.	Improvement in handling calculable courses	2.60	HE	2.74	HE
	Cluster Mean	2.61	HE	2.90	HE

Table 1 Title: Mean rating of parents on the extent to which parents apply innovative parenting practices for improving early childhood education.

From Table 1 above, it was revealed that male students' Cluster Mean = 2.61 while female students' Cluster Mean = 2.90. Most Importantly, both the male and female categories of Cluster Means are greater than the benchmark of 2.5.

Hypothesis 1: There is no significant difference between the mean ratings of male and female students on the extent to which gender affects students' academic performance at the Air Force Institute of Technology (AFIT) Kaduna.

Variables	N	X	SD	DF	p-value	∞	Remark
Males	96	2.61	0.76	143	0.04	0.05	Rejected
Females	49	2.90	0.77				

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Table 2 Title: T-test for Mean ratings of male and female students showing the extent gender affects students' academic performance at Airforce Institute of Technology (AFIT) Kaduna.

Table 2 above revealed that male students' Mean = 2.61; SD = 0.76 while female students' Mean = 2.90; SD = 0.77 at the degree of freedom (143), p-value (0.04), and level of significance (0.05). The result shows that p-value (0.04) is less than the level of significance (0.05), leading to the null hypothesis being rejected. This shows a significant difference between the mean ratings of male and female students on the extent to which gender affects students' academic performance at the Air Force Institute of Technology (AFIT) Kaduna.

DISCUSSION

The report from Table 1 above shows that both categories of respondents perceived the gender factor as a potent factor which is influencing their academic performance at the Air Force Institute of Technology (AFIT) Kaduna. However, the Cluster Mean for female students is 2.90 higher than their male counterparts. Furthermore, it is reported that there is a significant difference between the mean ratings of male and female students on the extent to which gender affects students' academic performance at AFIT. With the difference in Mean rating favouring the female students, it seems the gender factor makes female students outperform their male counterparts, academically. This is supported by the findings of Gonzalez & De La Rica (2012) and Lao (1980), whose research findings showed that females perform higher academically than males. Similarly, the findings of this research are in tandem with the research studies of Asif, et al (2020); Kisigot, et al. (2020); Siddiky and Haque (2024) whose investigations reported that gender affects student academic performance because females have better academic performance than males as study habits and learning habits also contribute to it.

On the other hand, the National Bureau of Statistics (2021) found that generally, males dominated the students' enrolment in Nigeria University for Undergraduate and Postgraduate across the two academic sessions (43.87 percent in 2017/18 and 43.82 percent in 2018/19). Additionally, Owan, et.al. (2021) found that stable female enrolment was only recorded between 2011 and 2013. This implies that males had a higher enrolment rate across federal universities than females. Conversely, higher male enrolment rates were recorded steadily between 2010 to 2014, as well as in 2016 and 2018 (Owan, et.al.2022). Surprisingly, despite more enrolment of males, females seem to be more focused on their academic journeys than males, hence the reason the report favour them, in terms of academic performance.

IMPLICATION TO RESEARCH AND PRACTICE

In an attempt to sustain solutions to findings from the study,

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1. There is the need for an inclusive and diverse admission policy that is based only on merits rather than on the mistaken priority belief that men are superior intellectually and will learn more quickly than women, who may become distracted by marriage or drop out early due to being a nursing mother to avoid admitting wrong students. In this stance, the issue of godfatherism, order or authority from the above and obeying the last order syndrome, the "whom you know" phenomenon or specifically, who greased palms and committed the greatest amount of money should be abhorred totally to have the right candidates as students in AFIT and other post-secondary education elsewhere.
2. Students admitted to AFIT should pass through adequate strict screening in each of their chosen departments to avoid admitting untrustworthy students who will later corrupt others. Instead of basing this screening on gender issues where it is presumed that boys do better than girls it should be focused on the educational domains of cognitive, affective, socio-emotional, and psychomotor skills in order to arm lecturers, policy makers, and parents on how to support the students in the institution and elsewhere.
3. The age and moral character of applicants to post-secondary educational institutions should be carefully considered in order to avoid admitting underage, disreputable, and unscrupulous students who will not understand the purpose of pursuing post-secondary education and, as a result, will not have good study habits and learning habits and will be reluctant to complete assignments, attend classes, turn in homework, take exams, or engage in truancy and other examination malpractices.
4. To prevent misfits, malingering, and lack of interest in their studies, these students must receive the appropriate guidance and counseling from experts in that field, as well as regular orientation and workshops not only from AFIT but from inviting prominent successful captains of industry who are pulling weight both within and outside Nigeria to rub minds with them and expose them to educational resources sites that will boost and quicken their learning abilities and entrepreneurial spirit and mindsets to succeed. Through these mechanisms, students will be better informed and appreciative of the value of education and strive to become employers of Labour and captains of industry rather than seekers of jobs. Additionally, students will better comprehend why they are enrolled in AFIT, how the cumulative grading system, continuous assessment, and the 85% attendance to lectures are calculated before they are permitted to take the final exam and are ultimately graded.

CONCLUSION

This study examined the effects of gender on the academic performance of undergraduate degree students who were registered in their second and third years in 2021–2022 in the science, engineering, computer, and social and management sciences faculties at the Air Force Institute of Technology (AFIT) in Kaduna. The study's results demonstrated that AFIT admits more males than females. In addition, female students perform noticeably better academically than their male counterparts. This difference may be attributed to the lengthy hours of effort female students devote to their studies, their learning and study habits capabilities, family background, and access to appropriate orientation, guidance, and counseling. As a result, females perform better

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academically than males. Distractions, inattention, family break-up problems, doing the
Yahoo blood business of using their telephones to defraud unsuspecting innocent
people on the internet, following peer groups, and financial limitations could be
attributed to the male 'student's poor academic performance.

FUTURE RESEARCH

The researcher suggests that future researchers can replicate this research study on the
impact of gender on students' academic performance in other post-secondary Education
in Nigeria using advanced statistical tools for wider coverage and generalization since
the present study focused only on the Air Force Institute of Technology Kaduna. In
addition, other variables such as socio-economic factors can be examined by future
researchers.

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