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Editorial

This edition of *NIU Journal of Educational Research* touches on Assessment Practices of Teachers, Digitalized Learning Delivery, The Role of Education in Transforming Youth Identity and Purpose, Leadership Succession Planning in Higher Education and Educational Psychology.

One of the papers, in this issue, examines how integrating YouTube technology has an impact on secondary school students' academic performance and attitudes in Civic Education in Akoko Metropolis, Ondo State, Nigeria, and underscores the need for improving teacher training in digital pedagogy, providing infrastructure for internet access in schools, and reforming curricula to include digital content delivery methods formally.

Another paper also reveals persistent challenges Nigeria's Higher Education, including the absence of formalized succession frameworks, limited leadership development opportunities, resource constraints, and inadequate administrative commitment. Emerging practices emphasize embedding leadership development into academic career pathways, fostering diversity and inclusion in leadership pipelines, and utilizing data-driven technologies for talent management and informed decision-making. The paper therefore, recommends that strengthened policy support, capacity building, and continuous mentorship will be vital to embedding leadership succession into the strategic culture of higher education institutions.

On the whole, this edition of *NIU Journal of Educational Research* features many empirical and theoretical based articles which can be of great benefit to every reader.

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Assessment Practices of Economics Teachers of Senior Secondary Schools in Maiduguri Metropolis, Borno State, Nigeria

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Abstract. The study examined assessment practices of Economics teachers of senior secondary schools in Maiduguri Metropolis, Borno State, Nigeria. The objectives of the study were to: (1) determine how Economics teachers plan assessment, (2) find out methods and procedures followed by Economics teachers to conduct assessments, (3) assess how Economics teachers give assessment feedback to students on their performance: and (4) assess how Economics teachers utilize assessment feedbacks. The study used descriptive research design. The population for the study was all the twenty (20) Economics teachers from eight (8) senior secondary schools where Economics is taught in Maiduguri metropolis. Census sampling technique was used in the sampling of respondents because of their small size. The instrument for data collection was a questionnaire tagged “Economics Teachers’ Assessment Practices Questionnaire” (ETAPQ)” developed by the researchers. The questionnaire had a Cronbach alpha reliability index of 0.78 and consisted of twenty-eight (28) items. The items on the questionnaire were responded on a 5-point scale ranging from always to never. The researchers administered the questionnaire to the respondents at the schools and were retrieved the same day. The data collected were analyzed using descriptive statistics (mean and standard deviation) to answer all the research questions. The findings of the study revealed that Economics teachers plan assessment by ensuring that assessment tasks align to learning outcomes, consider the six levels of cognitive outcomes in the Bloom’s Taxonomy and align classroom assessment tasks with what has been taught. The findings of the study also revealed that Economics teachers conduct written assessments in the class, provide assessment tasks that allow students to

achieve at a high level and engage students in group projects, provide face-to-face feedbacks to whole class, on-the-moment feedback as students are still engaged in the tasks as well as feedback in written or print form which included comments on students ‘assessed work. The result of the study also indicated that teachers utilize assessment feedback to evaluate teaching strategies, determine appropriateness of instructional materials, identify students’ difficult learning areas, but Economics teachers do not sample assessment from the entire theme of Economics curriculum, they do not give feedback at the end of each assessment and they do not utilize assessment feedback to determine students’ promotion to next level. Based on the findings of the study it was recommended that Borno state Ministry of Education should ensure that Economics teachers in senior secondary schools go for further training and take more courses in assessment to improve their assessment skills.

Keywords: Assessment Practices, Economics, Teachers, Senior Secondary School

1. Introduction

Educational assessment is the systematic process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand and can do with their knowledge as a result of their educational experiences (Zhou, 2023). In educational systems worldwide, assessment of learning is a classic way of measuring students’ progress and are integral to accountability of schools and the educational system. Assessment is inseparably linked with

teaching and learning. The contribution of assessment to an educational system is so significant that it forms the basis for almost all fundamental decision making. Throughout an educational system, decisions have to be made about students, curricula and programmes and educational policies.

Assessment is an integral part of instruction as it determines whether or not the goals of education are being met. Considering the content of curriculum in designing any assessment is vital as it helps in identifying and meeting the educational goal (Chappius & Stiggius, 2002). Assessment influences decisions about grades, placement, advancement, instructional needs and curriculum. Well planned and designed assessment methods provide teachers with valuable feedbacks about students learning, what students learned, how well they learned it and where they struggled. Assessment makes students more active and responsible for their education. It serves to improve their learning. Assessments support deep learning, develop critical thinking and promote students' interaction and continuity of the learning experiences.

While classroom assessments play a central role in the evaluation of student learning, they provide relevant measures of many important learning outcomes and indirect evidence concerning others. They make expected learning outcomes explicit to students and parents and show what types of performance are valued. The validity of the information they provide, however, depends on the care that goes into the planning and preparation of tests and assessments (Miller, Linn & Gronlund, 2009).

The vast array of assessment procedures used in the school can be classified and described in many different ways. Assessment procedures are frequently selected on the basis of their objectivity, accuracy or convenience. Thus, assessment procedures can contribute to improvements in the teaching-learning process itself and contribute directly to improved student teaching as well as inform planning and decision making (Miller et.al. 2009).

One of the fundamental principles of assessment is that students at any level need feedback. Students should know how close they are to their school learning outcomes or goals as a result of their educational activities. Assessment should include the provision of feedback. For formative assessments to contribute to students' learning they must receive high-quality feedback on their efforts (Tontus, 2020).

Feedback from carefully developed test and other types of assessment can be utilized to improve instruction, such information can aid in judging: the appropriateness and attainability of the instructional goals, the usefulness of the instructional materials and the effectiveness of the instructional methods. Furthermore, literature confirms that classroom assessment results inform teachers on whether pupils have understood the learning material or not and enables teachers to have a clear guideline on how they should plan for their next lessons (Mainde, Mtonga, Magasu & Mpolomoka, 2023).

An effective classroom assessment begins with an assessment plan that specifically describes the instructional objectives and content to be measured and the relative emphasis to be given to each intended learning outcomes. Mahendra, Dewi and Wahyuni (2021) determined formative assessment planning during online learning in Indonesia. The findings showed that all teachers successfully integrated formative assessment planning into their lesson plan. There were formative techniques that appeared in the lesson plan, such as questioning technique, formative task, daily test, online discussion, and self-assessment.

Babatimehinet et. al. (2025) determined teachers' knowledge of key issues such as classroom assessment, teaching process and assessment procedure in school-based assessment among secondary school teachers in Ondo state, Nigeria. The result indicated highest mean score in the classroom assessment ($M = 7.81$, $SD = 0.941$), indicating relatively better implementation in this area. Teaching processes had a lower mean score ($M = 5.70$, $SD = 1.774$), while assessment procedures recorded the lowest mean score ($M = 4.20$, $SD = 1.612$), reflecting weaker implementation.

Sheikh and Manap, (2024) conducted a study on classroom assessment practices in secondary school education in Kuala Selangor, Malaysia. The findings revealed that teachers mostly use teacher-centered strategies while other teachers use the methods of the project, try to succeed, peer, practical, group, collaborative, class and individual. Additionally, most teachers use quiz techniques, question-answers, training, open-ended questions and closed questions. The result further revealed some teachers use the reward trend and fostering a sense of responsibility among students.

Vlachou, (2018) investigated classroom assessment practices in middle school science lessons among Greek science teachers. The findings of this study revealed that participants focused more on the

summative uses of assessment, without effectively using the assessment evidence to complete the learning loop and thus meet the formative assessment requirements. Teachers appeared to use some formative assessment principles which are valuable in promoting student learning, but their approaches were more teacher-directed while students appeared not to have any role in the assessment process.

Ezeugo (2019) determined test feedback strategies adopted by primary school teachers in Anambra State, Nigeria. Findings of the study revealed that teachers majorly gave feedback in writing or print form which included handwritten comments on students' assessed work, written numeric scores, grades, averages or positions, etc. they also gave face-to-face feedbacks to whole classes, individual students and small groups of students.

Gan, An and Liu (2021) studied 308 university students' perceived teacher feedback practices and their feedback experiences in an English Studies course in two Universities in China. Results of the study revealed teacher facilitative feedback was found to be most frequently used in both the two universities, suggesting that teachers involved in the Integrated English course were highly inclined to provide scaffoldings to facilitate students solving problems or performing tasks independently in the daily classroom. The dominance of facilitative feedback practices in this English Studies course, the study concluded could be related to the recent adoption of tasked-based language teaching initiated in the China's reform of the tertiary English Studies curriculum in line with a constructivist perspective of learning as opposed to traditional grammar-translation approach.

On utilization of assessment feedbacks, Justine, Mpolomoka, Mushibwe, Muyoba, Kombe and Gondwe (2023) examined classroom assessment practices of secondary school teachers in Zambia and found that 34% of the teachers use assessment results to diagnose the effectiveness and drawbacks of teaching methods, 42% use the feedback from assessment to point out the difficult learning portions, identifying what students think and how they think and what they understand and 24% to make decisions regarding students grade retention and promotion. The summary of the findings is that the majority of the secondary school teachers use classroom assessment results to point out the difficult learning portions; identify what students think, and how they think; and what they understand concerning a particular learning material.

In a study on Utilization of Cognitive Diagnostic Assessment (CDA) as a feedback tool by secondary school teachers in Maiduguri Metropolis, Borno State conducted by Abani, Jidda, and Gazali, (2021) the result revealed a high level of utilization of assessment feedback as a diagnostic tool among teachers; however, the results indicated a significant gender difference in utilization of cognitive diagnostic assessment among teachers in favour of females. In another study Mpasela and Chikopela, (2022) found that teachers utilize assessment feedback to make informed decisions about pupils' learning progress, inform teachers whether the pupils have understood what they have learnt or not and to guide how the teachers should plan for their next lessons.

1.1 Statement of the Problem

From general observation as practicing teachers in Maiduguri metropolis for about a decade, the researchers observed that many secondary school teachers are not regularly assessing students, the little assessments conducted are without proper assessment planning and assessment procedures not followed. Majority of the teachers do not assess learners as instructions progresses nor give feedback to learners on achieved learning. The dominant functions of assessment when used together with classroom instruction are informing appropriateness of instruction strategy used, guiding the students' next steps and checking progress and achievement. The types of assessment tasks students are given determine how students will approach the learning tasks. What and how students learn depends to a major extent on how and when they think they will be assessed. The general absence of some of these features of assessment in senior secondary schools' classrooms is what informed the researchers to conduct the study on assessment practices of Economics teachers of senior secondary schools in Maiduguri Metropolis, Borno state, Nigeria.

1.2 Objectives of the Study

The objectives of the study were to:

- determine how Senior Secondary School Economics teachers in Maiduguri Metropolis plan assessments;
- find out the methods and procedures followed by Senior Secondary School Economics teachers of Maiduguri Metropolis to conduct assessments;
- assess how Senior Secondary School Economics teachers in Maiduguri Metropolis

give assessment feedbacks to students on their performance; and

- assess how Senior Secondary School Economics teachers in Maiduguri Metropolis utilize assessment feedbacks.

1.2 Research Questions

The following questions were formulated to facilitate the attainment of the study’s objectives:

- How do Senior Secondary School Economics teachers in Maiduguri Metropolis plan assessments?
- What are the methods and procedures followed by Senior Secondary School Economics teachers in Maiduguri Metropolis to conduct assessments?
- How do Senior Secondary School Economics teachers in Maiduguri Metropolis give assessment feedbacks to students on their performance?
- How do Senior Secondary School Economics teachers in Maiduguri Metropolis utilize assessment feedbacks?

2. Research Methodology

The design used was the descriptive research design. This was based on the claim of Cohen and Manion (2007) that the descriptive research design has the potential to generate useful and analysable data that represent a wider target population, generate numerical data for ease of comparison and provide descriptive, inferential and explanatory information. This design was used to obtain information concerning teachers’ assessment practices and to describe what exists with respect to variables or conditions in this situation. The researchers adopted the descriptive

research design because it had the advantage of producing a good amount of responses.

The population for the study was all the twenty (20) Economics teachers from eight (8) senior secondary schools where Economics is taught within Maiduguri metropolis. Census sampling technique was used in the sampling of respondents, thus all the teachers participated in the study because of their small size.

The instrument for data collection was a questionnaire tagged “Economics Teachers’ Assessment Practices Questionnaire” (ETAPQ)” The structured questionnaire was developed by the researchers. The questionnaire had a Cronbach alpha reliability index of 0.78 and consisted of twenty-eight (28) items. The items on the questionnaire were responded on a 5-point scale ranging from always to never. The researchers administered the questionnaire to the respondents at the schools and were retrieved the same day.

The data collected were analyzed using descriptive statistics (mean and standard deviation) to answer all the research questions. Descriptive statistics were used because the statements on the questionnaire described the extent to which Economics teachers conduct and utilize assessments feedbacks. Values assigned to the responses were as follows: always - 5 points, often - 4 points, sometimes -3 points, rarely -2 points and never - 1 point. Since the five-point rating scale was used for the responses, the criterion mean/decision rule was based on mean 3.00. The criterion mean was established by summing the scores on the five-point scale and dividing it by the number of the cases. The analyses were presented on the basis of the research questions.

3. Results

Research Question 1: How do Senior Secondary School Economics teachers in Maiduguri Metropolis Plan Assessments?

Table 1: Mean and Standard Deviation of How Senior Secondary School Economics Teachers Plan Assessments

S/No. Item Statement	N	Mean	SD
Ensure that assessment tasks align to learning outcomes	20	3.50	1.02
Consider learners identified needs in planning classroom assessment tasks	20	3.60	1.18
Consider the six levels of cognitive outcomes (Bloom’s Taxonomy) while developing learning outcomes	20	3.70	1.27
Align classroom assessment task with what has been taught	20	4.35	0.91

Design assessments that engage students in the process of learning rather than simply producing a final product	20	3.65	1.20
Ensure that assessment items are valid and reliable before implementing assessments	20	3.55	0.65
Sample assessment items from all themes in the Senior Secondary School Economics curriculum	20	2.85	1.06

The results of data analysis on how teachers plan assessment in Table I reveals higher mean scores than the criterion measure of 3.00 in all the items except item 7 which is below the

bench mark ($M=2.85$, $SD=1.01$) indicating that most teachers do not sample assessment items from all the themes in the content of the curriculum.

Research Question 2: What are the methods and procedures followed by Senior Secondary School Economics teachers in Maiduguri Metropolis in conducting assessments?

Table 2: Means and Standard Deviations of Methods and Procedures Senior Secondary School Economics Teachers Conduct Assessments

S/No.	Item Statement	N	Mean	SD
	Allow students to reveal their errors, then make corrections using assessment rubrics	20	4.10	0.83
	Encourage self assessments among students to encourage critical thinking	20	4.05	1.07
	Encourage peer assessments among students to for internalization of assessment criteria	20	3.65	1.06
	Conduct written assessments in the class	20	4.01	0.85
	Engage students in group projects	20	2.65	1.15
	Provide a rubric with straightforward evaluation criteria	20	2.85	1.15
	Provide assessment tasks that allow students to achieve at a high level	20	4.00	1.18
	Conduct assessments after treating each unit/topic	20	3.40	1.32

The results of data analysis on methods and procedures teachers conduct assessments in Table 2 indicates that the mean scores are higher than the criterion mean of 3.0. This shows that the required methods and procedures are followed by the Economics teachers in conducting assessments in schools, except item 12 which is below the mean bench mark ($M=2.65$, $SD= 1.15$) indicating teachers do not engage students in group projects.

Research Question 3: How do Senior Secondary School Economics teachers in Maiduguri Metropolis give assessment feedbacks to students?

Table 3: Means and Standard Deviations of How Senior Secondary School Economics Teachers Give Assessment Feedbacks to Students

S/No.	Item Statement	N	Mean	SD
	Provide face-to-face feedbacks to whole class	20	3.15	1.01
	Provide sufficient and detailed feedback using feedback and self assessment sheets	20	3.75	0.99
	Provide facilitative feedback to individual students	20	3.15	1.01
	Give feedback from assessment tasks to students promptly	20	4.10	0.89
	Give on-the-moment feedback (feedback as students are still engaged in the task)	20	3.5	0.97
	Give feedback in written or print form which included comments on students' assessed work	20	4.15	0.96
	Provide feedback to learners after each task is completed	20	2.20	0.51

The results of data analysis on how Economics teachers give assessment feedbacks to students in Table 3 reveals higher mean scores than the criterion measure of 3.0 in all the items except item 22 which is below the bench mark (M=2.20, SD=0.51) indicating that most teachers do not provide feedback to learners after each assessment task is completed.

Research Question 4: How do Senior Secondary School Economics teachers in Maiduguri Metropolis utilize assessment feedbacks?

Table 4: Means and Standard Deviations of How Senior Secondary School Economics Utilize Assessment Feedbacks

S/No.	Item Statement	N	Mean	SD
	Use assessment feedback to evaluate teaching strategies	20	4.3	0.71
	Use assessment feedbacks to modify instructional strategy	20	4.1	0.89
	Use assessment feedbacks to determine appropriateness of instructional materials	20	4.3	0.71
	Use feedback from assessment to identify difficult learning areas	20	4.2	0.89
	Use assessment feedback to make decisions' regarding students' promotion to next level	20	2.20	0.51
	Use assessment results to monitor students' progress	20	4.05	0.87

The results of data analysis on utilization of assessment feedback by teachers in Table 4 reveals higher mean scores than the criterion measure of 3.0 in all the items except item 27 which is below the bench mark (M=2.20, SD=0.51) indicating that most teachers do not utilize assessment feedback to make decisions regarding students' promotion to next level.

4. Discussion

The result of data analysis on research question one which determined how teachers plan assessment revealed that teachers plan assessment by ensuring that assessment tasks align to learning outcomes, consider learners identified needs in planning assessment tasks, consider the six levels of cognitive outcomes in the Bloom's Taxonomy, align classroom assessment tasks

with what has been taught and ensure that assessment items are valid and reliable before implementing assessments. These findings by and large are consistent with the position of many educational measurement experts such as Miller, Linn and Gronlund (2009) who asserted that an effective classroom assessment begins with a plan that specifically describes the instructional objectives and content to be measured and the relative emphasis to be given to each intended learning outcomes. This is followed by the selection of the most appropriate item formats and the preparation of items and tasks that are relevant to the learning outcomes. The result on teachers not sampling assessment items from all themes in the senior secondary school Economics curriculum, in the view of the researchers could be attributed to the voluminous nature of the Economics curriculum which makes it impossible to sample assessment from all themes.

The findings of research question two which determined methods and procedures of conducting assessment by teachers revealed that teachers encourage self and peer assessments among students, conduct written assessments in the class, provide assessment tasks that allow students to achieve at a high level and engage students in group projects. These are in line with that of Sheikh and Manap (2024) who found that teachers in Kuala Selangor, Malaysia use teacher-centered strategies while other teachers use the methods of try to succeed, peer, practical, group, collaborative, class and individual methods of assessment. Furthermore, the study also found that teachers do not provide rubric with straight forward-evaluation criteria. This finding is similar to that of Vlachou, (2018) who found that Greek science teachers use formative assessment principles which are valuable in promoting student learning, but their approaches were more teacher-directed while students appeared not to have any role in the assessment process.

Regarding research question three which determined how senior secondary school Economics teachers give feedback to students on their performance indicated that teachers provide face-to-face feedbacks to whole class, facilitative feedback to individual students from assessment tasks promptly, on-the-moment feedback as students are still engaged in the tasks as well as feedback in written or print form which included comments on students' assessed work. These findings are in agreement with that of Ezeugo (2019) who found primary school teachers in Anambra State, Nigeria majorly gave feedback in writing or print form which included handwritten comments on students' assessed work, written numeric scores, grades,

averages or positions, etc. they also gave face-to-face feedbacks to whole classes, individual students and small groups of students. However, the result also revealed that most teachers do not provide feedback to learners after each assessment task is completed.

The findings on research question four indicated that teachers utilize assessment feedback to evaluate teaching strategies, determine appropriateness of instructional materials, identify students' difficult learning areas. Similar results were reported by Justine et. al. (2023) who found 34% of secondary school teachers in Zambia use assessment results to diagnose the effectiveness and drawbacks of teaching methods, 42% use the feedback from assessment to point out the difficult learning portions, identify what students think and how they think and what they understand. On utilizing assessment feedback to make decisions regarding students' promotion to next level the study found that Economics teachers in Maiduguri metropolis do not utilize assessment feedback for this. This finding is contrary to the finding of Justine et. al. (2023) who reported that 24% of secondary school teachers in Zambia use assessment results to make decisions regarding students' grade retention and promotion.

5. Conclusion

Based on the findings of study it is concluded that Economics teachers in senior secondary schools engage in a wide range of desirable assessment practices ranging from considering the content of the curriculum while planning assessments, considering the Bloom's categories of cognitive learning outcomes and selecting appropriate item formats while planning assessments. It is also concluded that required methods and procedures are followed by the Economics teachers in conducting assessments in schools, giving timely feedback to students on their performance and utilize assessment feedbacks for different purposes. However, most of the teachers do not assess students from all the content of the curriculum and do not engage students in group projects.

6. Recommendations

The following recommendations are put forward based on the findings of the study:

Borno state Ministry of Education should ensure that Economics teachers in senior secondary schools go for further training and take more courses in assessment to improve their skills and in content sampling. The ministry should also through the Senior Secondary

Education board ensure that Economics teachers use desirable classroom assessment practices especially in the area of engaging students in group projects.

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Digitizing Learning Delivery through YouTube Technology: A Transformative Approach in Education to Enhancing Students' Performance

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Abstract. In an era where digital literacy is becoming increasingly important, the Nigerian education system needs to shift from traditional, teacher-centered methods to more dynamic, student-centered approaches. This study examined how integrating YouTube technology has an impact on secondary school students' academic performance and attitudes in Civic Education in Akoko Metropolis, Ondo State, Nigeria. A quasi-experimental design was used, involving selected SSII students from public secondary schools in Akoko metropolis, Ondo State. Data were gathered through the Civic Education Performance Test (CEPT) and the Questionnaire on Students' Attitudes towards YouTube for Learning (QSAYL) ($r = 0.85$) and analyzed using descriptive statistics to identify significant differences between the experimental and control groups. The results showed that students who received YouTube-based instruction performed better and had more positive attitudes toward Civic Education (average mean score = 2.89). Additionally, students responded favorably to YouTube, noting increased interest, better understanding, and greater engagement with the subject. The study recommends improving teacher training in digital pedagogy, providing infrastructure for internet access in schools, and reforming curricula to include digital content delivery methods formally.

Keywords: Digital Literacy, YouTube Technology, Academic Performance, Attitude and Civic Education.

1. Introduction

Education plays a crucial role in national development by equipping individuals with the knowledge, skills, and values necessary for meaningful participation in society. Over the past few decades, the integration of technology in education has gained momentum,

transforming the ways in which teaching and learning take place. One of the most significant technological advancements in education is the use of digital platforms such as YouTube. YouTube, a widely accessible video-sharing platform, has increasingly been utilized in educational settings due to its ability to provide engaging, multimedia-rich content that enhances students' learning experiences. As a supplementary teaching tool, YouTube has been found to improve comprehension, engagement, and retention of knowledge among students (Kumar & Kalra, 2021).

The fundamental role of producing competent and effective citizens by the education industry is becoming more complex as society has been transformed by digital technologies of the 21st century. The integration of these technologies in socio-economic and political institutions is gradually making human interactions more digital (Garba, Byabazaire & Busthami, 2015). It is, therefore, required of the education industry to integrate digital technologies in teaching and learning to equip 21st-century learners with what it takes to fit into the larger society. It is worth noting that most of these digital technologies are not primarily designed for the education industry. The need to create a teaching and learning environment that mirrors the reality of the larger society calls for the innovative integration of digital technologies that have transformed the analogue society into a digital one (Harris, Mishra & Koehler, 2019). When technology is used in this manner, the teacher becomes a mentor and facilitator of the teaching and learning process while learners are actively involved in the process of constructing knowledge (Jagtap, 2016).

Prior to the 21st century, non-digital technologies were integrated into the teaching and learning process

for the purpose of enhancing learners' understanding and facilitating easy remembrance of the information conveyed by teachers (Obielodan, 2016). These non-digital technologies include but not limited to books, pens, paper, chalks, blackboards, whiteboards, printed pictures, maps, charts, and textbooks. The teachers who do integrate non-digital technologies are of believe that effective learning will take place when learners repeatedly learn particular information presented through these technologies. Chalkboard remained the most commonly integrated non-digital technology in the teaching and learning process at the secondary school level. The teacher conveys the learning content to the learner via writing on the board, along with verbal explanations, and sometimes draws on the board to illustrate the information to the learners. However, the issues of knowledge application/transfer in the context of the 21st-century workplace, as well as the development of positive attitudes through the integration of non-digital technologies, have remained a bone of contention among educational stakeholders (Hendry, 2015 & Nwodo, 2017).

As digital technologies become increasingly widespread, various methods of technology integration are being adopted in education. Digital Presentation Technologies (DPT) are reported to be the most commonly used digital tools in classrooms (Gambari, 2017). These include, but are not limited to, interactive whiteboards, LCD projectors, DLP projectors, Wireless Presentation Systems (WPS), and their associated computer applications (both offline and online), such as YouTube, PowerPoint, Zoom, Google Meet, WhatsApp, Prezi, Google Slides, Skype video calls, and both synchronous and asynchronous online presentations. A common feature of all these digital presentation tools is the use of multimedia. Teachers can innovatively utilize 'dual-coding' by combining text, audio, and motion graphics, animations, or real videos to enhance learning (Gambari, 2017).

YouTube digital technology remains the most commonly integrated DPT in classrooms. It is reportedly very effective at engaging and holding students' attention, which positively influences their academic performance and motivation (Erdemir, 2019). YouTube appeals to sight and hearing, the most frequently used senses in teaching and learning activities (Gambari, Zubairu, Daramola, Abubakar, & Tukura, 2018). However, this form of technology integration creates a semi-compromised 21st-century learning environment. Students only receive information presented by the teacher through digital technologies, but they do not actively use digital tools to construct knowledge. Therefore, the suitability of

YouTube slides for digital natives (21st-century learners) has been questioned because the use of prior knowledge to build new understanding through interaction with learning content is limited (Chen, 2012).

YouTube application packages come equipped with interactive features that can be utilized to create engaging and dynamic learning environments (Garth, 2020). These features include hyperlinks, triggers, animations, custom shows, selection panes, animation panes, and various multimedia tools. Such components are instrumental in designing what is referred to as an Interactive YouTube system, where slides or content are hyperlinked, allowing for flexible navigation and user-centered interaction (Kosslyn, Kievit, Russell, & Shephard, 2020). Teachers can leverage this technology by developing virtual projects that incorporate video tutorials, educational games, virtual data collection activities, and drill-and-practice exercises. These can be combined in various ways depending on the instructional goals and desired behavioral changes in learners. One distinct advantage of YouTube-based learning is the concept of the "guided screen," which helps maintain learner focus through structured navigation.

Badmus (2021) examined the impact of digital technology in biology, where students engaged with instructional videos. The results showed a significant improvement in students' academic performance compared to those taught using traditional methods. These findings confirm the educational potential of YouTube and its interactive features, reinforcing its usefulness as a platform for promoting active learning, content mastery, and student engagement. The teacher in a YouTube-based learning environment plays a key role in prompting students to recognize the need for information to solve problems, collaborate with peers, and think critically to differentiate between relevant and irrelevant information. Following this approach to technology integration means shifting from the traditional teacher-centered classroom to a student-centered model where students actively construct knowledge instead of passively receiving it. This shift away from common practices can have academic effects—positive or negative—on students' learning outcomes when implementing curriculum content in any subject, such as civic education.

The civic education curriculum is held in high esteem by the Nigerian government in realizing the unmet goals of using formal education as a tool to develop expected knowledge, skills, and dispositions essential for learners' citizenship engagement. The esteem associated with the subject by the Nigerian

government warrants disarticulation of the subject from the social studies curriculum to become an independent core subject in lower basic (primary school), upper basic (Junior Secondary schools), and Post Basic (Senior Secondary Schools) education in Nigeria. Civic education as a core school subject in Nigerian senior secondary schools is made up of three different elements: civic knowledge, civic skills, and civic disposition. The digital tools that the 21st century ushered in are now being used extensively to demonstrate citizens' civic potentials via the use of digital tools, such as online petitions or automatic data aggregators, online electioneering (Meira, 2021). Using these technologies in implementing civic education curriculum will have educational implications on students' academic performance and attitudes toward civic education as a school subject.

In Nigeria, the education sector faces several challenges, including inadequate infrastructure, teacher shortages, and limited access to quality instructional materials (John & Igbudu, 2025). These challenges hinder effective teaching and learning, particularly in subjects such as Civic Education. Civic Education is a core subject in the Nigerian secondary school curriculum, designed to instill values of citizenship, governance, social responsibility, and national consciousness among students. However, the traditional methods of teaching Civic Education in many Nigerian schools rely heavily on rote memorization and teacher-centered approaches, which often fail to engage students meaningfully (Ogunleye & Ojo, 2022). As a result, many students struggle to develop a deep understanding of civic concepts and their real-world applications.

Academic performance is one of the commonly used indices for determining students' success in learning specified curriculum content. It is a numerical rating obtained from continuous assessment and examination (Adediwura & Tayo, 2017). Students' academic performance at secondary school levels communicates to the government and other education stakeholders the effectiveness of schools, the well-being of youths in particular, and the nation in general (Lewin, Wasanga & Somerset, 2019). It is these numerical values that the educational industry commonly uses to judge the effectiveness of any educational intervention (Yusuf & Adigun, 2010). Using this measure alone as justification that learning has taken place has been criticized by educational stakeholders as inadequate. Useful knowledge is described as the knowledge that is transferable into skills and attitudes and applicable in real-life situations (Gano-Phillips, 2022).

Attitude represents our evaluations, preferences, or rejections based on the information received. It is a learned predisposition to respond in a consistently favourable or unfavourable manner concerning a given object. An important consequence of instruction is the students' attitudes toward the subject. A student with low achievement might have developed positive attitudes toward the subject matter, while students with high achievement might have developed negative attitudes toward the subject matter, vice versa. Teachers need to be aware of the attitudinal characteristics of their students (Gano-Phillips, 2022). The likelihood of a student putting his knowledge of civic education to use (applicability) largely depends on the student's attitude toward or against the subject because things disliked have a way of being forgotten easily.

1.1 Statement of the Problem

The rapid advancement of digital technologies has revolutionized education globally, compelling schools and higher institutions to re-examine traditional methods of teaching and learning. Among these technologies, YouTube has emerged as a widely accessible and powerful platform for delivering instructional content. Its visual, interactive, and user-friendly features offer opportunities to enhance comprehension, stimulate interest, and foster independent learning among students. Despite these potentials, concerns persist about its effective integration into formal learning environments, particularly in contexts where traditional, teacher-centered instruction still dominates.

The learners in the 21st century prefer technologically enriched learning environments because of the benefits derived from using digitalized learning, including increased motivation, deeper understanding, and improved performance through YouTube-based learning, others may encounter barriers that hinder its positive impact. As such, integrating digital tools into educational programs has become essential. The Nigerian government underscores the necessity of incorporating technology into teaching to ensure quality education. However, Civic Education in Nigerian secondary schools, especially in Akoko, Ondo State, still relies heavily on traditional, teacher-centered methods that prioritize rote memorization. This outdated approach has resulted in low student engagement, poor comprehension, and a general lack of interest in the subject. To address these issues, the integration of YouTube as a digital instructional tool will be a great avenue since YouTube offers a wide array of multimedia content-including animations, real-life examples, and expert-led tutorials can

transform Civic Education into a more engaging and practical subject.

Moreover, empirical evidence on the actual implications of YouTube technology on students' academic performance remains limited and inconclusive. While anecdotal reports highlight its benefits in promoting engagement and self-paced learning, few systematic studies have examined whether these outcomes translate into measurable improvements in students' academic achievement. This gap in research leaves educators, policymakers, and stakeholders uncertain about the real value of digitizing learning delivery through YouTube and its role in transforming education. Therefore, this study investigated the extent to which the integration of YouTube technology into teaching and learning influences students' academic performance, as well as students' attitudes in Akoko metropolis, Ondo State, Nigeria.

1.2 Purpose of the Study

The study determined the effect of YouTube technology integration on secondary school students' learning outcomes in civic education in Akoko, Ondo State, Nigeria. Specifically, the study aimed at:

- Determine the difference in the academic performance of SSII students taught civic education using YouTube instructional package (YTIP) and those taught using the traditional teaching method (TTM) in Akoko, Ondo State, Nigeria.
- Ascertain the difference between the performance of male and female students taught civic education using YouTube instructional package (YTIP) and those taught using the traditional teaching method (TTM).
- Examine the attitude of students toward utilizing YouTube for instructional purposes in Akoko, Ondo State, Nigeria.

1.3 Research Questions

Three research questions are raised for this study:

- Will there be any difference in the post-test performance of students taught civil education using the YouTube instructional package (YTIP) and those taught using the traditional teaching method (TTM)?
- Will there be any difference between the performance of male and female students taught civil education using YouTube instructional package (YTIP) and those taught using the traditional teaching method

(TTM)?

- What is the attitudinal disposition of students toward Civic Education when taught using the YouTube Instructional Package (YTIP)?

1.4 Research Hypotheses

There are two research hypotheses formulated for the study is:

H₀₁: There is no significant difference in the post-test performance of students taught civil education using the YouTube instructional package (YTIP) and those taught with the Traditional teaching method (TTM).

H₀₂: There is no significant difference between the academic performance of male and female students taught biology using the YouTube instructional package (YTIP)

2. Research Methodology

The study would adopt a pretest, post-test quasi-experimental design. Specifically, a pretest-posttest, non-equivalent, non-randomized, comparison groups design was used.

The population for this study comprised all the students of 63 Public Senior Secondary School in Akoko, Ondo State, Nigeria with a total population of 30,314 students. Akoko metropolis has 63 secondary schools that are categorized into three: the rearticulated Public Secondary schools (combination of Senior and Junior under the authority of one Principal), the Public Senior Secondary schools and the public junior secondary schools.

Two schools from Akoko metropolis were purposively selected for this study. The selected schools are operating on the same curriculum and already utilizing ICT gadgets to support their students' learning activities. Ipe High School served as the experimental group, while Isua High School served as the conventional teaching method group. Ipe High School is chosen for the experimental group because the school has the capacity required in terms of computers, internet facilities, and ICT personnel. SSII students were selected purposively for the study because the three topics chosen in the Civil Education for the study were offered in SSII, and these students have been exposed to different ICT gadgets and are familiar with them. The three topics include National integration, National development and Political Apathy.

The study used three research instruments, which include the Civic Education Performance Test (CEPT), Questionnaire on Students' Attitudes towards

YouTube for Learning (QSAYL), and the YouTube Instructional Package (YTIP).

The CEPT consisted of 30 multiple-choice questions adapted from past exams of the West African Examination Council (WAEC) and the National Examination Council (NECO). The test was based on the SSII curriculum covering the concepts of (i) National Integration, (ii) National Development, and (iii) Political Apathy. The instrument contains multiple-choice item questions with four options (A-D). Students responded to the instrument in two sections. Section A was on personal data of the respondents, while Section B contained 30 objective questions on selected topics. The test was scored 30 marks for 30 questions.

Questionnaire on Students Attitudes towards YouTube for Learning (QSAYL) is a 15-item

questionnaire adapted from “A Biology Attitude Scale by Russell and Hollander (1975) which has reliability index of 0.8. The items were rated using a modified Likert scale ranging from Strongly Agreed (SA), Agreed (A), Disagreed (D) to Strongly Disagreed (SD). The items of the questionnaire were worded in positive form, which SA is attracted to 4 points, A is 3, D is 2, and SD is 1.

The YouTube Instructional Package (YTIP) was also developed by researchers using some other digital technologies such as PowerPoint video slide recorder, Action Button, Hyperlinks, Trigger, animation, transition, custom slide show, and graphics design supporting tools of YouTube. The package was made up of three topics: National integration, National development, and Political apathy.



The links to the three treated topics for this study are:

https://youtu.be/47zH3s5dd3I?si=n4Si-okur_jzTxV2 - National Integration and Unity

https://youtu.be/sbQel9wJxGg?si=fAtT-5_QOLgmzxp - Orderliness

<https://youtu.be/OGcyMZ43yjA?si=zR5sbes9o6e9WSu-> - Political Apathy

The three instruments were given to five experts in the field of educational technology (2), educational evaluation (2), and civic education (1). These experts validated for construct and content and face validity of the instrument for clarity of items, and appropriateness of the instructional package to the student’s level. These experts pointed out typographical errors and the need for re-arrangement of CEPT questions. It was advised that the items of QSAYL should be reduced to 15. All these observations were effected in the final copy of the instruments. To test the reliability of a treatment instrument, data from a pilot study were used. The data obtained was subjected to statistical tools using Cronbach's Alpha. An alpha of 0.85 was obtains.

After obtaining permission to use the selected schools, the researchers worked together with the subject teachers of the schools, who served as research assistants on the use of YTIP. At the beginning, a pre-test was administered to both experimental and control groups, while the treatment was administered on the experimental group using YouTube Instructional Package (YTIP). The YTIP was developed for both online and offline to give rooms for those that may not have internet service.

Data were analyzed using simple percentage, mean score, standard deviation, t-test and ANCOVA analysis through the aid of SPSS.

3. Results

Table 1: Demographic Information of Respondents

SCHOOL	GENDER	FREQUENCY	PERCENTAGE (%)
IPE HIGH SCHOOL	Male	21	26.25
	Female	17	21.25
ISUA GRAMMAR SCHOOL	Male	26	32.50
	Female	16	20.00
TOTAL		80	100

Table 1 displays the percentage of respondents from each participating school. At Ipe High School, which served as the experimental group, there are 21 male students (26.25%) and 17 female students (21.25%). Isua Grammar School, representing the control group, has 26 male students (32.50%) and 16 female students (20.00%).

Test of Hypotheses

Hypothesis 1: There is no significant difference in the post-test performance of students taught civil education using the YouTube instructional package (YTIP) and those taught with the Traditional teaching method (TTM).

The t-test analysis was used to determine the entry knowledge of the YTIP and TTM groups, to ensure equal opportunity for both groups. The result is shown in the Table 2.

Table 2: t-test on Pretest Scores of the Experimental and the Control Groups

Group	N	Mean	Std. Deviation	df	T	p	Remarks
Experiment (YTIP)	38	9.289	1.374	78	-0.63	0.255	Not Sig.
Control (TTM)	42	9.309	1.456				

The result in Table 2 showed that the students who learnt civil education had the same background of knowledge and equal ability before being exposed to the treatment, since $t(78) = 0.255 < P.05$. Any difference observed after the treatment can therefore be associated with the treatment. In order to test the experimental and control groups, the students' post-test scores were subjected to mean scores analysis and ANCOVA, which is discussed in Tables 3 and 4.

Table 3. Mean Analysis of Posttest of YTIP and TTM on Students' Academic Performance

Group Posttests	N	Mean	STD	Std. Error Mean
YTIP	38	22.18	1.608	0.261
TTM	42	16.28	1.559	0.241

Table 3 revealed the mean scores of the posttests of YTIP and TTM. It showed that the students who were exposed to YTIP performed better, with a mean score of 22.18, while their counterparts TTM group had a mean score of 16.28. This implied that students in YTIP received better treatment when exposed to YouTube instruction for learning. Table 4 shows the significance level, as the pretest served as a covariate

Table 4: Analysis of Pretest-Posttests of YTIP and TTM on Students' Academic Performance

Tests of Between-Subjects Effects					
Dependent Variable: PRETESTGROP					
Source	Type III Squares	Df	Mean Square	F	Sig.
Corrected Model	18.347 ^a	12	1.529	63.913	.000
Intercept	3.488	1	3.488	145.800	.000
PRETEST GROUP	.004	1	.004	.182	.671
POSTTEST GROUP	18.346	11	1.668	69.719	.000
Error	1.603	67	.024		
Total	206.000	80			
Corrected Total	19.950	79			

a. R Squared = .920 (Adjusted R Squared = .905)

The result in Tale 4 showed a statistically significant difference in the post-test scores between the experimental and control groups ($F = 69.72, p < 0.05$). This indicates that there is a significant difference in post-test Civic Education performance scores between students taught with YouTube and those taught with traditional teaching methods. Students taught with a YouTube instructional package performed better than those taught using the traditional teaching method. This strongly suggests that the multimedia and interactive features of YouTube enhanced students' comprehension and retention of Civic Education content.

Hypothesis 2: There is no significant difference between the academic performance of male and female students taught civic education using the YouTube instructional package (YTIP)

Table 5: t-test of the Posttest Performance of the Male and Female of the YTIP group

YTIP Gender	N	Mean	Std. D.	df	T	P	Remarks
Male	21	22.19	2.001	36	0.260	0.101	Sig.
Female	17	22.18	2.451				

Table 5 indicates that $t(36) = 0.260 > P.05$ of the male and female scores of YTIP experimental group was not significant. This means that there was no significant difference in the post-test mean score between male and female students. The male students' mean score (21.19) did not differ significantly from that of female students with a mean score of 22.18 when both were taught using the YouTube instructional package. Therefore, the hypothesis is hereby accepted.

Research Question 3: What is the attitudinal disposition of students toward Civic Education when taught using the YouTube Instructional Package (YTIP)?

Table 6: Attitudinal Disposition of Students towards Utilisation of YTIP

S/N	Statement	SA	A	D	SD	N	Mean	Std. Dev.
1	The YouTube package makes me like the topics in8 civic education	25	2	3	38	38	3.00	0.771
2	YouTube packages make me enjoy the activities we15 do in Civic Education Class	14	7	2	38	38	3.11	0.894
3	YouTube packages make me like Civic Education	18	12	5	3	38	3.18	0.954
4	YouTube packages make what I learn in civic14 Education interesting	11	8	5	38	38	2.89	1.060
5	YouTube packages make me happier in a civic10 education class than in any other class	13	5	10	38	38	2.61	1.152
6	With YouTube packages, when I hear civic education,13 I have a feeling of likeness	16	2	7	38	38	2.91	1.075
7	YouTube packages make me like Civic Education11 class because it is active and interesting	14	6	7	38	38	2.76	1.076
8	YouTube packages make me like Civic Education9 because it is fascinating and fun.	19	5	5	38	38	2.84	0.945
9	With YouTube packages, Civic Education makes me12 feel comfortable, restful, and patient	11	9	6	38	38	2.76	1.076
10	YouTube packages make me like Civic education16 because it teaches what happens around us.	14	5	3	38	38	3.13	0.935
11	In civic education, I try to do as well as I can because12 of the impact of YouTube packages	14	5	7	38	38	2.81	1.087
12	Because of the YouTube package, I will register civic17 education as one of my JAMB subjects	12	3	6	38	38	3.05	1.089
13	YouTube packages make it easy for me to11 comprehend what is being taught in Civic Education Class, I have hope of passing	13	9	5	38	38	2.80	1.018
14	Civic education will be my first choice at a higher9 institution because I can easily understand what we are being taught in civic education class with the help of YouTube packages.	14	8	7	38	38	2.66	1.047
15	YouTube packages make what I'm being taught in11 Civic education important in everyday life	15	5	7	38	38	2.79	1.069
		Average mean score = 2.89						

The result in Table 3 revealed that the average mean score of the students' attitude towards the YouTube

instructional package was 2.89 out of 4. The percentage result is 72.25% with this result, it can be

said that students taught civic education utilizing YTIP have a great positive attitude towards YouTube for the instructional process.

4. Discussion of Findings

This result confirms that students who were taught using YouTube performed significantly better than those taught with traditional methods, even after controlling for prior knowledge. This finding supports earlier research, which suggests that digital media like YouTube provide a more engaging and context-rich learning environment. YouTube's visual and auditory features may enhance students' understanding of Civic Education concepts by making abstract ideas more concrete and relatable. This result is consistent with studies by Mayer and Moreno (2003) on multimedia learning who found that YouTube significantly improves student performance in the social sciences, and students who are exposed to YouTube-based learning strategies in the social sciences demonstrated significant academic gains.

Hypothesis Two tested for a significant difference between the academic performance of male and female students taught civic education using the YouTube instructional package. The finding revealed that male students' mean score did not differ significantly from that of female students, with a mean score of 22.18 when both were taught using the YouTube instructional package. This result is in line with the findings of Achuonye (2019), who discovered in her study that gender had no significant effect on the use of computers, but the use of computers in teaching improved the academic performance of the students. Also, Badmus (2021) revealed that gender has no significant influence on their academic performance when taught with Flipped Classroom Instruction for biology study.

The experimental group showed higher levels of enjoyment, interest, and perceived relevance of Civic Education. These findings suggest that YouTube not only serves as a cognitive tool but also as an affective enhancer, shaping how students emotionally connect to what they learn. This aligns with research by Fidan and Debbag (2018), who found that students exposed to video-based instruction displayed greater enthusiasm and positive attitudinal change toward learning. The social and interactive nature of YouTube may also foster a sense of autonomy, relevance, and curiosity in learners, all of which are vital for attitude formation.

5. Conclusion

YouTube technology integration significantly enhances both the academic and attitudinal outcomes of SSII students in Civic Education. Its multimedia capacity helps to clarify complex civic issues, increases learner engagement, and supports a shift toward student-centered instruction. This indicates that digital tools like YouTube can bridge the gap between theory and real-life application, making Civic Education more relevant and impactful.

6. Recommendations

Based on the findings, the following recommendations are made:

- The Ministry of Education should include YouTube-assisted instruction in Civic Education policy frameworks and teacher training programs.
- Educators should receive ongoing digital pedagogy training to maximize the instructional use of YouTube among students, both male and female.
- Stakeholders in the educational sector should include digital resources like YouTube as part of teaching strategies to facilitate learning in the class.

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From Restiveness to Responsiveness: The Role of Education in Transforming Youth Identity and Purpose in North-East Nigeria

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Abstract. The study examined the Restiveness to Responsiveness: The Role of Education in Transforming Youth Identity and Purpose in North-East Nigeria. The objectives of the study were to examine; the influence of vocational educational on the reduction of youth restiveness in North-East Nigeria, how Adult Basic Education (ABE) classes contribute to reshaping the identity and social behaviour of youths in the region and the challenges hindering the effective use of education as a tool for transforming youth attitudes and purpose in North-East Nigeria. The study adopts a descriptive survey research design. The total population is estimated at 2,000 respondents drawn from selected educational institutions and training centers. A sample of 400 respondents were selected for the study. The instrument for data collection was a structured questionnaire titled “*Education and Youth Transformation Questionnaire (EYTQ)*”. The items were designed on a four-point Likert scale ranging from Strongly Agree (4) to Strongly Disagree (1). The questionnaire was validated by experts in Measurement and Evaluation. A reliability coefficient of 0.70 and above was considered acceptable for the study. Data collected was analyzed using both descriptive statistics such as frequency count, percentage, mean and standard deviation was used. Findings of the study shows that: Vocational education significantly contributes to reducing youth restiveness through skill acquisition and self-reliance. Adult Basic Education (ABE) programs play a major role in reshaping youth identity, improving moral values, and promoting social behaviour. The effectiveness of education in transforming youth attitudes is constrained by insecurity, poor funding, lack of teachers, and socio-cultural barriers. Based on the findings, the following recommendations were made: The government should strengthen and expand vocational education programs to equip youths with

relevant skills. The government should address insecurity, improve funding, recruit qualified teachers, and counter socio-cultural barriers to enhance education’s transformative impact on youth attitudes.

Keywords: Restiveness to Responsiveness, Role, Education, Youth Identity and Purpose

1. Introduction

Youth constitute a vital segment of every society, representing the driving force for innovation, productivity, and sustainable development. However, in Nigeria, particularly in the North-East region, the enormous potential of young people has been undermined by unemployment, poverty, and prolonged insecurity (Akinwale, 2019). The region has, over the years, been characterized by youth restiveness manifesting through violent extremism, political thuggery, substance abuse, and other antisocial behaviours (Adesope & Agumagu, 2016). This situation is largely the outcome of limited educational opportunities, poor governance, and socio-economic marginalization. Consequently, transforming these youths from restiveness to responsiveness has become one of the most critical challenges facing policymakers, educators, and development partners in Nigeria.

Education is widely recognized as a powerful instrument for social transformation and national development (UNESCO, 2020). It goes beyond imparting knowledge and literacy skills; it shapes the attitudes, values, and identity of individuals, preparing them for responsible citizenship and peaceful coexistence (Ogunyemi & Akinola, 2018). In conflict-prone regions such as North-East Nigeria, education provides a pathway for healing, reintegration, and the reconstruction of moral and social values. According

to Obanya (2017), education nurtures in learners the capacities for critical thinking, empathy, and positive engagement—key ingredients for combating restiveness and promoting peace. Thus, education serves not only as a means of empowerment but also as a transformative force capable of redefining youth identity and purpose.

Youth restiveness in North-East Nigeria has become a persistent socio-economic and security challenge resulting from long-standing poverty, unemployment, political marginalization, and the disruption of educational systems caused by insurgency and displacement. Many young people, deprived of opportunities for education and livelihood, have turned to anti-social behaviors or joined violent groups as a means of survival or expression of grievance (Adebayo & Mohammed, 2022; Aluko & Ibrahim, 2021). This condition has weakened social cohesion, eroded moral values, and intensified instability in the region. Education therefore plays a transformative role in reversing these trends by serving as a tool for empowerment, social inclusion, and peacebuilding. Access to both formal and non-formal education provides displaced and vulnerable youths with literacy, vocational, and psychosocial skills necessary for reintegration and rehabilitation (UNICEF, 2023; Adamu & Bello, 2020). When properly structured, education can address the root causes of restiveness by fostering critical thinking, building employability, and restoring hope and direction among the youth population.

Furthermore, education is instrumental in reshaping youth identity and enhancing responsiveness within communities in conflict-affected areas. By offering mentorship, counseling, and civic education, schools and adult learning centers help youths reconstruct their self-image from one associated with violence and victimhood to one grounded in responsibility, productivity, and social participation (Danladi & Ali, 2022; World Bank, 2022). This process of identity transformation enables young people to rediscover purpose and develop resilience in the face of adversity. When linked to livelihood opportunities, educational programs also instill a renewed sense of purpose and belonging, reducing the likelihood of re-engagement in restive behaviors. Moreover, education enhances civic consciousness and participation, equipping youths to become responsive citizens who contribute to peace and development in their communities (Usman & Peter, 2021; UNDP, 2023). Thus, the transition from restiveness to responsiveness among youth in North-East Nigeria depends largely on the accessibility, relevance, and quality of education as a

tool for social transformation and national reconstruction.

In recent years, various educational interventions both formal and non-formal have been introduced in the North-East by the government, NGOs, and international organizations. Programs such as adult literacy, vocational and skills acquisition training, and peace education have sought to equip youths with employable skills, moral orientation, and leadership abilities (Adejimola & Olaniyan, 2019). For instance, initiatives by the National Directorate of Employment (NDE) and the Agency for Mass Education have provided alternative livelihood opportunities for unemployed and displaced youths (Ibrahim, 2021). Despite these efforts, the region continues to experience persistent youth restiveness, raising questions about the effectiveness of education in achieving behavioural transformation and purposeful living among young people.

It is against this background that this study seeks to investigate the role of education in transforming youth identity and purpose from restiveness to responsiveness in North-East Nigeria. The study aims to examine how access to quality education and skills development can foster positive social values, self-reliance, and civic responsibility among youths in the region. The findings of this research are expected to contribute to educational policy reforms, peacebuilding strategies, and youth empowerment initiatives aimed at promoting sustainable development in North-East Nigeria and the country at large.

1.1 Statement of the Problem

The North-East region of Nigeria has for over a decade faced persistent challenges of insecurity, insurgency, and socio-economic disruption that have deeply affected the lives and identities of its young population. The collapse of educational systems, widespread unemployment, and prolonged displacement have left many youths vulnerable to frustration, radicalization, and violence, resulting in youth restiveness manifested through criminality, drug abuse, political thuggery, and participation in insurgent activities issues that continue to undermine peace and development in the region. This condition reflects not only the breakdown of social and institutional structures but also a crisis of purpose and direction among young people whose lives have been shaped by conflict and deprivation. Education, which should ordinarily serve as a tool for empowerment, social transformation, and value reorientation, has been severely disrupted by years of conflict, school

destruction, and displacement, denying many youths access to formal and non-formal learning opportunities that could equip them with the skills, attitudes, and moral guidance required for responsible citizenship. Although government agencies and development partners have implemented educational and rehabilitation programs aimed at re-engaging conflict-affected youth, their effectiveness in transforming restive tendencies into positive and responsive behavior remains uncertain. Consequently, there is limited empirical evidence on how education can rebuild youth identity, instill civic responsibility, and restore a sense of purpose among the affected population in North-East Nigeria. Therefore, this study examined the Restiveness to Responsiveness: The Role of Education in Transforming Youth Identity and Purpose in North-East Nigeria.

1.2 Objectives of the Study

The objectives of the study are to examine:

- the influence of vocational educational on the reduction of youth restiveness in North-East Nigeria.
- how Adult Basic Education (ABE) classes contribute to reshaping the identity and social behaviour of youths in the region.
- the challenges hindering the effective use of education as a tool for transforming youth attitudes and purpose in North-East Nigeria.

1.3 Research Questions

The following research questions were answered:

- What is the influence of vocational educational on the reduction of youth restiveness in North-East Nigeria?
- How Adult Basic Education (ABE) classes contribute to reshaping the identity and social behaviour of youths in the region?
- What are the challenges hindering the effective use of education as a tool for transforming youth attitudes and purpose in North-East Nigeria.

2. Research Methodology

The study adopts a descriptive survey research design. The design enabled the researcher to examine the role of education in transforming youth identity and purpose from restiveness to responsiveness in North-East Nigeria. It will also help to capture the perceptions, attitudes, and experiences of youths and educators in relation to educational opportunities and youth empowerment. The population of the study was all youths, adult education facilitators, teachers, and education officers across the six states of the North-East. Specifically, the target population was individuals who have participated in formal or non-formal educational programs, such as literacy classes, vocational training, or tertiary education. The total population is estimated at 2,000 respondents drawn from selected educational institutions and training centers. A sample of 400 respondents were selected for the study. The sample was drawn using a multi-stage sampling technique. In the first stage, three states (Borno, Adamawa, and Yobe) was purposively selected due to their high prevalence of youth restiveness and educational interventions. In the second stage, two local government areas (LGAs) were randomly selected from each chosen state. In the third stage, youth participants, educators, and administrators were selected from literacy centers, skills acquisition programs, and tertiary institutions using simple random sampling.

This method ensured fair representation of different categories of respondents. The instrument for data collection was a structured questionnaire titled "*Education and Youth Transformation Questionnaire (EYTQ)*." The questionnaire was based on items related to educational participation, youth empowerment, attitude change, and social responsiveness. The items were designed on a four-point Likert scale ranging from *Strongly Agree (4)* to *Strongly Disagree (1)*. The questionnaire was validated by experts in Measurement and Evaluation. A reliability coefficient of 0.70 and above was considered acceptable for the study. Data collected was analyzed using both descriptive statistics such as frequency count, percentage, mean and standard deviation was used.

3. Data Analysis and Results

Research Question 1: What is the influence of vocational education on the reduction of youth restiveness in North-East Nigeria?

Table 4.1: Statistical Analysis on the Influence of Vocational Education on the Reduction of Youth Restiveness

							=285	
S/N	Items	SA	A	UD	D	SD	\bar{X}	σ
1	Vocational education programs have provided alternative means of livelihood for youths in my community.	85 (29.8%)	97 (34.0%)	35 (12.3%)	40 (14.0%)	28 (9.8%)	3.61	1.05
2	Participation in vocational training has reduced involvement of youths in violent or anti-social activities.	90 (31.6%)	86 (30.2%)	32 (11.2%)	43 (15.1%)	34 (11.9%)	3.55	1.12
3	Vocational education enhances self-reliance and discourages dependency among young people.	98 (34.4%)	82 (28.8%)	31 (10.9%)	43 (15.1%)	31 (10.9%)	3.60	1.13
4	Skills acquired through vocational programs have improved youth employment and entrepreneurship opportunities.	94 (33.0%)	84 (29.5%)	30 (10.5%)	45 (15.8%)	32 (11.2%)	3.57	1.11
5	Government-sponsored vocational programs have contributed significantly to peace and stability in the region.	88 (30.9%)	90 (31.6%)	33 (11.6%)	42 (14.7%)	32 (11.2%)	3.55	1.09
6	The integration of vocational education into youth empowerment schemes has reduced youth restiveness in the region.	87 (30.5%)	89 (31.2%)	36 (12.6%)	42 (14.7%)	31 (10.9%)	3.54	1.07
Total Mean							3.57	

Source: Field Survey, 2025

Table 4.1 presents respondents' views on the influence of vocational education on the reduction of youth restiveness. The table summarizes responses in terms of frequency, percentage, mean, and standard deviation. For Item 1, which assessed whether vocational education programs have provided alternative means of livelihood for youths in the community, 85 (29.8%) of the respondents strongly agreed and 97 (34.0%) agreed, while 35 (12.3%) were undecided, 40 (14.0%) disagreed, and 28 (9.8%) strongly disagreed. The mean score of 3.61 indicates a positive perception that vocational education has created alternative livelihood opportunities for young people, thereby reducing unemployment and poverty. The standard deviation of 1.05 shows a moderate level of agreement among respondents, suggesting that most youths now engage in productive ventures due to vocational skills training.

Item 2 evaluated whether participation in vocational training has reduced the involvement of youths in violent or anti-social activities. About 90 (31.6%) strongly agreed and 86 (30.2%) agreed, while 32 (11.2%) were undecided, 43 (15.1%) disagreed, and 34 (11.9%) strongly disagreed. The mean of 3.55 suggests a generally positive perception that vocational training plays an important role in minimizing youth restiveness and crime by engaging them in meaningful work. The standard deviation of 1.12 indicates a fair spread of responses, showing that while many respondents acknowledged the program's impact, a few remained uncertain about its overall effectiveness. For Item 3, which examined whether vocational education enhances self-reliance and discourages dependency among young people, 98 (34.4%) strongly agreed and 82 (28.8%) agreed, while 31 (10.9%) were undecided, 43 (15.1%) disagreed, and 31 (10.9%) strongly disagreed. The mean of 3.60 shows that most respondents believe vocational education improves self-sufficiency and reduces economic dependence, while the standard deviation of 1.13 indicates moderate variation in opinions.

Item 4 assessed whether skills acquired through vocational programs have improved youth employment and entrepreneurship opportunities. About 94 (33.0%) of the respondents strongly agreed and 84 (29.5%) agreed, while 30 (10.5%) were undecided, 45 (15.8%) disagreed, and 32 (11.2%) strongly disagreed. The mean of 3.57 implies that the majority of respondents viewed vocational training as a pathway to employment creation and entrepreneurship. The standard deviation of 1.11 suggests a moderate level of variation, indicating that the benefits of skill training were not evenly distributed among all participants. For Item 5, which measured whether government-sponsored vocational programs have contributed to peace and stability in the region, 88 (30.9%) strongly agreed and 90 (31.6%) agreed, while 33 (11.6%) were undecided, 42 (14.7%) disagreed, and 32 (11.2%) strongly disagreed. The mean score of 3.55 reflects a positive view that such initiatives have enhanced regional stability, and the standard deviation of 1.09 indicates moderate consensus among respondents.

Finally, Item 6 examined whether the integration of vocational education into youth empowerment schemes has reduced youth restiveness in the region. A total of 87 (30.5%) respondents strongly agreed and 89 (31.2%) agreed, while 36 (12.6%) were undecided, 42 (14.7%) disagreed, and 31 (10.9%) strongly disagreed. The mean of 3.54 suggests a positive perception that youth empowerment through vocational education plays a major role in curbing restiveness and promoting peace. The standard deviation of 1.07 shows moderate agreement among respondents, implying that most participants shared similar experiences of vocational education’s impact. Overall, the total mean of 3.57 indicates that respondents generally agreed that vocational education significantly contributes to reducing youth restiveness by promoting skill acquisition, self-reliance, and employment opportunities that foster peace and community stability.

Research Question 2: How do Adult Basic Education (ABE) classes contribute to reshaping the identity and social behaviour of youths in the region?

Table 4.2: Statistical Analysis on the Role of Adult Basic Education (ABE) in Reshaping Youth Identity and Social Behaviour
=285

S/N	Items	SA	A	UD	D	SD	\bar{X}	Σ
1	ABE classes help participants develop positive attitudes towards learning and personal growth.	92 (32.3%)	87 (30.5%)	33 (11.6%)	42 (14.7%)	31 (10.9%)	3.58	1.10
2	ABE programs improve communication skills and promote peaceful coexistence among youths.	90 (31.6%)	88 (30.9%)	34 (11.9%)	41 (14.4%)	32 (11.2%)	3.56	1.11
3	Participation in ABE classes enhances moral values and reduces social deviance among youths.	89 (31.2%)	91 (31.9%)	30 (10.5%)	42 (14.7%)	33 (11.6%)	3.56	1.12
4	Literacy gained through ABE increases youths’ confidence and sense of identity.	91 (31.9%)	86 (30.2%)	35 (12.3%)	41 (14.4%)	32 (11.2%)	3.57	1.09
5	ABE classes encourage social integration and reduce stigmatization of uneducated youths.	88 (30.9%)	87 (30.5%)	36 (12.6%)	42 (14.7%)	32 (11.2%)	3.55	1.08
6	Exposure to ABE promotes civic responsibility and discourages involvement in violence.	87 (30.5%)	89 (31.2%)	33 (11.6%)	44 (15.4%)	32 (11.2%)	3.54	1.10
Total Mean							3.56	

Source: Field Survey, 2025

Table 4.2 presents respondents’ views on the role of Adult Basic Education (ABE) in reshaping youth identity and social behaviour. The table summarizes responses in terms of frequency, percentage, mean (\bar{X}), and standard deviation (σ). For Item 1, which assessed whether ABE classes help participants develop positive attitudes towards learning and personal growth, 92 (32.3%) of the respondents strongly agreed and 87 (30.5%) agreed, while 33 (11.6%) were undecided, 42 (14.7%) disagreed, and 31 (10.9%) strongly disagreed. The mean score of 3.58 indicates a positive perception that ABE promotes enthusiasm for learning and self-development among youths. The standard deviation of 1.10 shows moderate variation in opinions, suggesting that while most participants recognized these benefits, others had different experiences or limited exposure to ABE programs.

Item 2 evaluated whether ABE programs improve communication skills and promote peaceful coexistence among youths. About 90 (31.6%) strongly agreed and 88 (30.9%) agreed, while 34 (11.9%) were undecided, 41 (14.4%) disagreed, and 32 (11.2%) strongly disagreed. The mean of 3.56 suggests a generally positive perception that ABE fosters better communication and understanding among participants, thereby enhancing social harmony and conflict resolution skills. The standard deviation of 1.11 indicates moderate variation, reflecting that while most respondents supported this view, a few perceived limited impacts on communication or interpersonal relations. For Item 3, which examined whether participation in ABE classes enhances moral values and reduces social deviance among youths, 89 (31.2%) strongly agreed and 91 (31.9%) agreed, whereas 30 (10.5%) were undecided, 42 (14.7%) disagreed, and 33 (11.6%) strongly disagreed. The mean of 3.56 reveals that respondents believe ABE contributes significantly to moral reorientation and discipline, while the standard deviation of 1.12 shows some variability, likely due to differences in program content or delivery across centers.

Item 4 assessed whether literacy gained through ABE increases youths’ confidence and sense of identity. About 91 (31.9%) respondents strongly agreed and 86 (30.2%) agreed, while 35 (12.3%) were undecided, 41 (14.4%) disagreed, and 32 (11.2%) strongly disagreed. The mean of 3.57 indicates that most respondents viewed literacy as empowering

and identity-affirming, helping learners to regain self-worth and confidence. The standard deviation of 1.09 shows moderate agreement, implying consistency among respondents' views. For Item 5, which evaluated whether ABE classes encourage social integration and reduce stigmatization of uneducated youths, 88 (30.9%) strongly agreed and 87 (30.5%) agreed, while 36 (12.6%) were undecided, 42 (14.7%) disagreed, and 32 (11.2%) strongly disagreed. The mean score of 3.55 suggests a positive perception that ABE promotes inclusivity and acceptance, while the standard deviation of 1.08 reflects slight differences in opinion among respondents.

Finally, Item 6 assessed whether exposure to ABE promotes civic responsibility and discourages involvement in violence. A total of 87 (30.5%) respondents strongly agreed and 89 (31.2%) agreed, while 33 (11.6%) were undecided, 44 (15.4%) disagreed, and 32 (11.2%) strongly disagreed. The mean of 3.54 indicates a positive perception that ABE instills civic values and discourages antisocial behavior, while the standard deviation of 1.10 reflects moderate variation among responses. Overall, the total mean of 3.56 shows that respondents generally agreed that Adult Basic Education plays a major role in reshaping youth identity, enhancing moral values, and promoting socially responsible behaviour. This suggests that ABE is an effective instrument for personal development, social integration, and peacebuilding among young people in the region.

Research Question 3: What are the challenges hindering the effective use of education as a tool for transforming youth attitudes and purpose in North-East Nigeria?

Table 4.3: Statistical Analysis on Challenges Hindering the Use of Education for Youth Transformation
=285

S/N	Items	SA	A	UD	D	SD	\bar{X}	Σ
1	Insecurity and insurgency have disrupted educational activities and hindered youth participation.	95 (33.3%)	86 (30.2%)	34 (11.9%)	40 (14.0%)	30 (10.5%)	3.62	1.08
2	Inadequate funding and poor infrastructure limit the effectiveness of educational initiatives.	93 (32.6%)	88 (30.9%)	32 (11.2%)	42 (14.7%)	30 (10.5%)	3.60	1.09
3	Shortage of qualified teachers affects the quality of education provided to youths.	91 (31.9%)	90 (31.6%)	31 (10.9%)	43 (15.1%)	30 (10.5%)	3.58	1.11
4	Poverty discourages youths from participating in educational programs.	88 (30.9%)	92 (32.3%)	32 (11.2%)	44 (15.4%)	29 (10.2%)	3.57	1.12
5	Cultural and religious misconceptions hinder youth transformation.	86 (30.2%)	91 (31.9%)	33 (11.6%)	45 (15.8%)	30 (10.5%)	3.55	1.13
6	Poor government monitoring reduces the impact of education on youth attitudes.	85 (29.8%)	90 (31.6%)	36 (12.6%)	43 (15.1%)	31 (10.9%)	3.54	1.12
Total Mean							3.58	

Source: Field Survey, 2025

Table 4.3 presents respondents' views on the major challenges that hinder the effective use of education for youth transformation. The table summarizes responses based on frequency, percentage, mean (\bar{X}), and standard deviation (σ). For Item 1, which assessed whether insecurity and insurgency have disrupted educational activities and hindered youth participation, 95 (33.3%) of the respondents strongly agreed and 86 (30.2%) agreed, while 34 (11.9%) were undecided, 40 (14.0%) disagreed, and 30 (10.5%) strongly disagreed. The mean score of 3.62 indicates strong agreement that persistent insecurity and insurgent attacks have negatively affected access to education in the region. The standard deviation of 1.08 reflects moderate variation, implying that the impact of insecurity varies across communities but remains a critical obstacle to youth learning and development.

Item 2 evaluated whether inadequate funding and poor infrastructure limit the effectiveness of educational

initiatives. About 93 (32.6%) strongly agreed and 88 (30.9%) agreed, while 32 (11.2%) were undecided, 42 (14.7%) disagreed, and 30 (10.5%) strongly disagreed. The mean of 3.60 suggests that respondents widely acknowledged that lack of financial support, poor facilities, and inadequate learning materials undermine educational quality and youth engagement. The standard deviation of 1.09 shows moderate variation in responses, suggesting that while many institutions face these challenges, their severity differs by location and program. For Item 3, which examined whether shortage of qualified teachers affects the quality of education provided to youths, 91 (31.9%) strongly agreed and 90 (31.6%) agreed, whereas 31 (10.9%) were undecided, 43 (15.1%) disagreed, and 30 (10.5%) strongly disagreed. The mean score of 3.58 indicates that teacher scarcity significantly affects the delivery of quality education, while the standard deviation of 1.11 shows some variability in opinions,

possibly due to differences in institutional staffing levels.

Item 4 assessed whether poverty discourages youths from participating in educational programs. About 88 (30.9%) respondents strongly agreed and 92 (32.3%) agreed, while 32 (11.2%) were undecided, 44 (15.4%) disagreed, and 29 (10.2%) strongly disagreed. The mean of 3.57 suggests that financial hardship is a key barrier to youth education, as many cannot afford learning materials, transportation, or tuition fees. The standard deviation of 1.12 indicates moderate variation in responses, reflecting that poverty's impact may differ depending on individual or family background. Item 5 examined whether cultural and religious misconceptions hinder youth transformation. About 86 (30.2%) strongly agreed and 91 (31.9%) agreed, while 33 (11.6%) were undecided, 45 (15.8%) disagreed, and 30 (10.5%) strongly disagreed. The mean of 3.55 suggests that deep-rooted socio-cultural norms and religious biases continue to restrict participation in education, particularly among marginalized groups. The standard deviation of 1.13 signifies slight divergence in perceptions, indicating that these barriers persist in varying degrees across communities.

Finally, Item 6 assessed whether poor government monitoring reduces the impact of education on youth attitudes. A total of 85 (29.8%) respondents strongly agreed and 90 (31.6%) agreed, while 36 (12.6%) were undecided, 43 (15.1%) disagreed, and 31 (10.9%) strongly disagreed. The mean of 3.54 implies that weak oversight and poor program evaluation have reduced the sustainability and accountability of educational interventions. The standard deviation of 1.12 indicates moderate variation in views.

4. Summary of Findings

Vocational education significantly contributes to reducing youth restiveness through skill acquisition and self-reliance.

Adult Basic Education (ABE) programs play a major role in reshaping youth identity, improving moral values, and promoting social behaviour.

The effectiveness of education in transforming youth attitudes is constrained by insecurity, poor funding, lack of teachers, and socio-cultural barriers.

5. Discussion

Vocational and technical education has proven to be a vital mechanism for reducing youth restiveness by providing practical skills that promote self-employment and economic independence. When young people acquire vocational skills, they are

empowered to engage in productive ventures rather than resorting to violence or criminal activities as a means of survival. Studies in conflict-affected regions of Nigeria reveal that vocational education fosters social stability by equipping learners with competencies relevant to local markets, thereby reducing unemployment and frustration among idle youth (Okoro & Nwachukwu, 2020; Usman & Garba, 2021). Similarly, Akpan and Udo (2018) emphasize that skill acquisition enhances self-reliance and transforms the mindset of youths from dependency to entrepreneurship. In the same vein, Adamu and Bello (2022) found that vocational training in the North-East not only improves income generation but also rebuilds community resilience by creating a sense of purpose and responsibility among young people. These findings affirm that vocational education is a strategic tool for curbing restiveness and promoting sustainable peace in post-conflict societies.

Adult Basic Education (ABE) serves as an important platform for re-educating and re-socializing youths, particularly those affected by conflict, poverty, and displacement. Through literacy, numeracy, and civic instruction, ABE programs help participants reconstruct their identities, enhance moral reasoning, and develop positive social behavior (Danladi & Ali, 2022). According to UNESCO (2021), adult education instills essential values such as tolerance, cooperation, and respect for others, which are necessary for social cohesion in post-conflict societies. Similarly, Ibrahim and Peter (2020) noted that ABE centers in the North-East have contributed to moral reorientation and peace education among formerly restive youths. Furthermore, UNDP (2023) found that adult learning opportunities enable vulnerable groups to re-enter society as active citizens, thereby transforming their sense of self from dependency and aggression to productivity and responsibility. Collectively, these studies show that ABE programs are not merely remedial but also transformative, shaping moral consciousness and social inclusion among young people.

Despite the recognized importance of education in addressing youth restiveness, its transformative impact in the North-East remains limited by systemic and contextual challenges. Persistent insecurity has led to school closures, teacher shortages, and displacement of learners, disrupting the continuity of education and reducing program effectiveness (UNICEF, 2023). Poor funding and inadequate infrastructure further hinder learning delivery, while many trained teachers are unwilling to work in volatile areas (Okonkwo & Ibrahim, 2019). In addition, cultural practices and gender norms often discourage participation, especially among young women,

thereby excluding a critical segment of the youth population (World Bank, 2022). Adebayo and Mohammed (2022) argue that without addressing these structural barriers, educational programs cannot fully achieve their intended goals of peacebuilding and behavioral transformation. Thus, improving security, increasing educational investment, and promoting inclusive and culturally sensitive learning environments are essential to maximize the transformative power of education in the region.

6. Conclusion

Based on the findings, it is concluded that education plays a transformative role in redirecting the energies and aspirations of youths in North-East Nigeria from restiveness to meaningful engagement. Vocational education, in particular, provides a pathway for employment and entrepreneurship, reducing tendencies toward violence and dependency. Similarly, Adult Basic Education fosters moral discipline, literacy, and a sense of social responsibility, contributing to positive identity formation among young people. Nevertheless, persistent challenges such as insecurity, poverty, inadequate funding, and socio-cultural resistance continue to undermine the effectiveness of educational programs in the region. Addressing these barriers requires a collaborative effort among government agencies, non-governmental organizations, and community leaders to ensure that educational interventions are accessible, inclusive, and sustainable. In conclusion, for education to fully transform youth identity and purpose in North-East Nigeria, there is an urgent need to strengthen vocational and adult education programs, improve learning infrastructure, ensure security and policy consistency, and promote community-based approaches that align with local realities.

7. Recommendations

Based on the findings from the study, the following recommendations were made:

- The government should strengthen and expand vocational education programs to equip youths with relevant skills.
- The government should address insecurity, improve funding, recruit qualified teachers, and counter socio-cultural barriers to enhance education's transformative impact on youth attitudes

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Family Factors and Academic Outcomes among Secondary School Students in Benue State, Nigeria: A Multivariate Analysis of Structural and Dynamic Configurations

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Abstract. This study, drawing from Bowen Family Systems Theory, investigated the predictive powers of both structural and dynamic family configurations on academic outcomes among secondary school students in Benue State, Nigeria. The study sought to address gaps in prior univariate studies as a result of which a multivariate approach was adopted to assess configurational effects on English Language, Mathematics and General Knowledge. Materials and methods involved survey-based multivariate design deployed to target a population of 16,076 Senior Secondary School III students in 772 public schools. The study relied upon a multi-stage sampling procedure for the selection 1,608 respondents (802 males, 806 females) across 23 Local Government Areas of Benue State. For data collection, two validated instruments were used: the Family Factors Questionnaire, a 30-item Likert-scale tool measuring structural and dynamic composites (reliability coefficient $r=0.81$), and the Educational Achievement Test, comprising 120 multiple-choice items (40 per subject). Reported reliability coefficients were $r = 0.81$ (for the FFQ instrument) and Kuder–Richardson Formula 20 ($KR-20$) = 0.87 for the achievement test. Statistical Package for the Social Sciences Version 25 was utilised for multivariate regression analyses of null hypotheses at a 0.05 significance level. Findings revealed that both configurations significantly predicted outcomes ($p<0.001$). Family structure explained 49.5% to 66.4% of variance in academic outcomes across the three subjects while variance of 28.0% to 50.4% of variance was accounted for by family dynamics. Recommendations include: (1) implementing parental education programs to enhance household stability and resource management; (2) establishing school counselling for improving family communication and emotional support; (3) integrating family-oriented policies in education ministries; (4) conducting ongoing assessments of family influences; (5) creating home-school collaboration platforms like workshops; and (6) providing targeted aid, such as mentoring and scholarships, for students from unstable families.

Keywords: Structural Configuration; Dynamic Configuration; Family Structure; Family Dynamics and Academic Outcomes

1. Introduction

The family is the first and often the most proximate context that shapes the direction of events for individuals in all sectors of society, notably including education. In the context of schooling, the ecological system of the child is shaped through the provision of material resources, supervisory structures, caregiving practices and cultural meanings that collectively influence motivation, attendance and academic performance – a factor significantly contingent on structural and dynamic configurations within the family system. Benue State of Nigeria spans an extensive configuration of families drawn from diverse ethnic groups, the predominant ones of which are the Tiv, Idoma and Igede peoples. Comparable household organisations, rooted in patriarchal traditions and extended kinship, are prevalent among the various peoples from these and other ethnic groups in the state. Similarly, their daily operations – both as individuals and as members of their respective societies – are shaped by shared cultural norms and similar external pressures. Among the Tiv people, who form the largest ethnic group in the state, extended compounds, where multiple generations live under the authority of the eldest male, constitute the prevalent household system. Usually, the extended family compounds incorporate polygynous marriages and these expand family size and complicate resource sharing (Ugbem, 2013). Compact family clusters with strong lineage ties are similarly prevalent in Idoma households, where uncles or elders assume prominent roles in rural settings. Igede families are organised around villages and clans, where communal bonds led by senior males prevail, a structure that, together with the predominance of subsistence farming, ensures that investment in education is significantly limited. Nuclear households are somewhat uncommon. These family forms, however, appear in urban centres, particularly among wage-earning populations. Even in such settings, extended relatives are often incorporated for mutual support and shared domestic responsibilities (Adikwu, 2025).

Across the different ethnic groups in the state, there is a growing emergence of single-parent households. This pattern, resulting from conflict-related fatalities and

separations, places the full responsibility for livelihood and child-rearing on the single parent, usually the mother. The household balance is further complicated by polygynous arrangements prevalent among the Tiv and partly among the Idoma. Within such systems, children from different unions receive unequal levels of support, leaving those born to subordinate wives at a distinct disadvantage (Fasiku, 2020).

Grandparent-directed households are increasingly common. They emerge when parents die or relocate in search of safety. Though elders provide stability and emotional continuity, their limited strength often hinders consistent school supervision. Similarly to grandparent-directed households, sibling-managed families emerge when parents die or are suddenly absent, with older siblings assuming caregiving responsibilities. Opportunities for learning are shaped by these structural configurations in the family system, quintessentially evident in erratic payments for essentials or shortages of supplies, heightening withdrawal within extended or polygynous homes and elevating rates of non-attendance, while students from single-parent households tend to perform worse academically because there is less parental supervision and monitoring of their schoolwork (Adikwu, 2025).

These structural alterations are aggravated by farmer-herder and communal conflicts, which have displaced whole households and reshaped household compositions. In Tiv-dominated areas such as Guma, armed assaults have forced families to relocate to camps, resulting in family separations and the suspension of classes, with student enrolment plummeting (Ngbede et al., 2024). Relocated families across ethnic lines consolidate into enlarged extended collectives for defence, merging obligations but attenuating focus on studies. Across ethnic divisions, this collective adaptation – relying on kinship networks during periods of turmoil – reveals overlap: Tiv polygynous households may fragment into clusters led by elders or siblings, while Idoma networks frequently absorb orphans. Yet all endure curtailed schooling chances. Resources are prioritised for essentials rather than education, resulting in lower attendance and academic achievement among secondary school students (Okwori & Gbough, 2019).

Within these organisations, dynamic household configurations additionally direct the educational paths for students. Tiv households exhibit diverse forms of guidance, ranging from directive yet supportive approaches that foster order to rigid approaches during hardship, which demand strict adherence without assistance. Kinship connections can provide crucial support; however, role ambiguity in polygynous or elder-led households may destabilise family functioning, thereby adversely affecting academic outcomes. In areas marked by instability, caregivers often prioritise safety over recognising school achievements, which can elevate students' anxiety and attention difficulties (Ngbede et al., 2024). Academic

outcomes in Benue's secondary schools are jointly shaped by the structural and dynamic configurations of family households, where stable extended families and supportive interactions encourage initiative and higher achievement, frequently through collective monitoring. Yet, conflicts such as family disputes exacerbate these challenges as fragmented polygynous households increase pressures on members and heighten the likelihood of school dropout. Among the Igede, traditional exchange norms may restrict girls' contributions, and when coupled with organisational preferences favouring males, constrain girls' learning opportunities, while boys continue to receive greater support (Fasiku, 2020). Such recurring experiences underscore the need for targeted interventions to reinforce both structural and dynamic household factors, fostering more equitable learning outcomes. Across Tiv, Idoma and Igede families, there are many points where structure and relationship patterns merge. In a large polygynous household, for example, even if economic resources are scarce, strong cooperation among co-wives and siblings can sustain children's schooling. Conversely, a small nuclear family with constant quarrels or poor communication can still produce weak academic results. The real impact of the family on education therefore depends not only on its size or form but also on the tone and quality of daily relationships. There is, therefore, the compelling need to ground the described structural and dynamic configurations in empirical realities with particular reference to the influence they exert on academic outcomes among secondary school students in Benue State across multiple subjects – hence the multivariate character of the study.

1.1 Statement of the Problem

Despite the extensive studies in Nigeria that have examined how family factors shape students' academic outcomes, most have adopted single-subject or univariate approaches that fail to capture the range of academic outcomes. Similarly, most have focused either on family structure – the number of parents, family size, or type of household – or on family dynamics such as parenting style, communication, and supervision. In Benue State, Aye et al. (2019) found that family structure predicts academic achievement, and Nnome et al. (2022) linked communication patterns to self-efficacy. Yet, the extent to which family structure and family dynamics separately influence student achievement across different school subjects remains unclear. This gap propelled the application of a multivariate approach that regressed composite indices of family structure and family dynamics on outcomes from secondary school students across English Language, Mathematics, and General Knowledge (1) to determine whether these family factors demonstrated consistency or variance in effects across subjects and (2) to provide a more complete picture of how the organisation and relational atmosphere of families in

Tiv, Idoma, and Igede communities shape academic outcomes in Benue State.

1.2 Research Objectives

In line with the stated problem of the study, this research sought to achieve the following specific objectives:

- To determine the extent to which the composite measures of family structure predict student outcomes across English Language, Mathematics, and General Knowledge in Benue State secondary schools.
- To determine the extent to which the indicators of family dynamics predict student outcomes across English Language, Mathematics, and General Knowledge in Benue State secondary schools.

1.3 Research Questions

To meet the research objectives, the following questions guided the study:

- To what extent do the composite measures of family structure significantly predict student outcomes across English Language, Mathematics, and General Knowledge in Benue State secondary schools?
- To what extent do the indicators of family dynamics significantly predict student outcomes across English Language, Mathematics, and General Knowledge in Benue State secondary schools?

1.4 Null Hypotheses

To address the research questions, the following null hypotheses were formulated:

- The composite measures of family structure do not significantly predict student outcomes across English Language, Mathematics, and General Knowledge in Benue State secondary schools.
- The indicators of family dynamics do not significantly predict student outcomes across English Language, Mathematics, and General Knowledge in Benue State secondary schools.

1.5 Theoretical Framework: Bowen Family Systems Theory (1976)

Bowen family systems theory, developed by psychiatrist and researcher Dr Murray Bowen (1913–1990), is one of the first-generation theories developed in the 1960s and 1970s that focused on interactions among individuals, moving beyond the individual perspective (Cochran, 2011). The theory provides an invaluable lens through which the complex interplay between family dynamics, family structure and educational achievement can be grasped. Bowen family

systems theory treats individuals' functioning and behaviour as intricately linked to their family system (Kerr & Bowen, 1988). The word “system” means a set of interrelated and interdependent elements, which could be components, units, entities, factors, members, parts etc. "Set" as used here, according to Miller (1978) cited in Sillitto, Dori, Griego, Jackson, Krob, Godfrey, Arnold, Martin & McKinney (2017), implies that these elements share common characteristics that are essential for interaction and relationships. The health of each element depends on the well-being of the others, collectively forming a functioning whole. If one element does not function well, the other elements experience adverse effects. The elements are, therefore, highly integrated to accomplish an overall goal as they continually influence one another (directly or indirectly) to maintain their activity and the existence of the system. Therefore, the family functions like a system. It is actually a system – a system of individuals, each of whom has a part to play and rules to be governed by, and all of whom are expected to operate in a certain way informed by their role, which is determined by unconscious relationship agreements (Mind and Body Works, 2021).

The theory is significant in demonstrating that both family structure and family dynamics shape students' academic outcomes. Families spanning the diverse ethnic configurations of Benue State are organised into household forms: nuclear, extended or polygynous. These create varying conditions for supervision, communication, and emotional support. The effectiveness of these arrangements does not merely lie in their form but in how the family system functions as an integrated whole. Going back to observations from Mind and Body Works (2021), each family member operates according to implicit relational rules that sustain or undermine systemic balance. This is to say that a student's educational achievement reflects the family's capacity to maintain both organisational stability and emotional health, validating Bowen's proposition that individual competence in wider systems such as school originates in the adaptive functioning of the family unit.

2. Literature

A review of literature on the multivariate analysis of structural and dynamic configurations within the family system, in relation to their effects on academic outcomes, will focus on family structure, family dynamics, academic outcomes and empirical evidence for family structure and family dynamics as predictors of academic outcomes.

2.1 Family structure

Family structure refers to the formal organisation of household membership, roles, boundaries, and authority relationships (Amato, 2005; McLanahan & Percheski, 2008). It encompasses types such as nuclear, single-parent, extended, blended, or polygynous families. The

structural configuration establishes how time, resources and supervision are allocated among members (Cherlin, 2010). In theoretical accounts, structure is the scaffolding through which socialisation and resource flows take place, influencing children's exposure to supports or constraints in educational settings.

2.2 Family dynamics

Family dynamics denote the processes of interaction among household members: communication, conflict resolution, emotional support, cohesion and adaptability (Olson, 2000; Cox & Paley, 2003). These dynamics work wonders in managing stress, regulating motivation and shaping relational climate. Also dependent on healthy dynamics are openness, mutual respect, and effective problem-solving; dysfunctional ones show rigidity, withdrawal or persistent conflict (Minuchin, 1974; Bowen, 1978). As the engine of the family system, dynamics translate structural arrangements into lived experience, shaping how individuals respond to external demands such as schooling.

2.3 Academic outcomes

Academic outcomes can be defined as the measurable indicators of student performance, such as grades, standardised test scores, subject mastery, attendance and engagement (Wang & Eccles, 2013). This definition of academic outcomes includes both cognitive skills and non-cognitive factors that include effort, self-regulation and persistence. Because students engage with distinct curriculum areas, family influences may vary across domains (e.g. mathematics, language) depending on the nature of support and involvement. Academic outcomes, therefore, according to Eccles & Wigfield (2002), serve as the endpoint linking family environments to educational success.

2.4 Empirical evidence for family structure and family dynamics as predictors of academic outcomes

Empirical studies have consistently demonstrated that family structure and relational processes independently correlate with student achievement. For example, Oba-Adenuga (2020) found that students in nuclear families performed significantly better than those in non-traditional structures in Lagos. In Ogun State, students from two-parent homes outperformed peers from single-parent families (Impact of Family Structure, 2017). Research in Osun State by Adeleke and Akinloye (2019) established a positive association between family communication and academic outcomes among secondary school pupils. Uwaifo (2012) similarly demonstrated that university students from stable two-parent homes had higher academic ratings than those

from single-parent households. Together, these findings affirm that both structure and dynamics hold predictive value for academic performance in Nigeria.

2.5 Research gap

Despite this evidence, few studies adopt a multivariate design that treats composite measures of family structure and family dynamics as parallel predictors across subject-specific outcomes (e.g. English, Mathematics, General Knowledge). In the context of Benue State, no known study has compared how structural and relational configurations differentially influence performance in these multiple academic domains.

3. Research Methodology

A survey-based multivariate design was adopted for the study to determine the predictive powers of the composite measures of family structure on the indicators of family dynamics within of students' academic outcomes in English Language, Mathematics and General Knowledge. The study population comprised 16,076 Senior Secondary School (SSS III) students enrolled in 772 public secondary schools across Benue State. Following Nworgu's (2015) sample-size guidance, ten per cent of the population ($n = 1,608$) was selected using a multi-stage sampling procedure. First, all 23 Local Government Areas (LGAs) were included. Second, ten per cent of schools within each LGA were randomly selected ($n = 77$ schools). Third, within each selected school, ten per cent of male and ten per cent of female SSS III students were randomly drawn, yielding 802 male and 806 female respondents. Two instruments were administered. The Family Factors Questionnaire (FFQ) comprised 30 Likert-type items divided equally between measures of family structure and family dynamics. The Educational Achievement Test (EAT) comprised 120 items. The 120 items were 40 multiple-choice questions each in English Language, Mathematics, and General Knowledge. Both instruments underwent content validation by subject-matter experts. Reported reliability coefficients were $r = 0.81$ (for the FFQ instrument) and Kuder-Richardson Formula 20 ($KR-20$) = 0.87 for the achievement test. Data collection proceeded sequentially: respondents first completed the FFQ and then the EAT. Students' admission numbers were used to match questionnaire and test data for each participant. Data were analysed using multivariate regression techniques to accommodate multiple dependent variables (subject scores in English, Mathematics, and General Knowledge, and overall achievement). All tests of null hypotheses were conducted at .05 significance threshold.

4. Results

H₀₁: *The composite measures of family structure do not significantly predict student outcomes across English Language, Mathematics, and General Knowledge in Benue State secondary schools.*

Table 1: Multivariate Regression Analysis of the Predictive Powers of the Composite Measures of Family Structure on Student Outcomes across English Language, Mathematics and General Knowledge

Dependent Variable	R-Squared	β Coefficients	T	df	F	p-value
Performance in English Language	.664	2.958	55.026	1	3027.814	0.000
Performance in Mathematics	.495	2.945	38.691	1	1496.980	0.000
Performance in General Knowledge	.638	2.957	51.862	1	2689.631	0.000
Performance across Three Subjects (Pillai's Trace Test)	Not Applicable	Not Applicable	Not Applicable	3	1028.645	0.000

Source: Data from researchers' fieldwork (analysed using SPSS Version 25 Output)

From the data presented in Table 1, it is evidently clear that the p-value of the multivariate regression analysis of the predictive powers of the composite measures of family structure on student outcomes across English Language, Mathematics and General Knowledge, at 0.000, is less than the significance level of 0.05. The null hypothesis is therefore rejected. This implies that the composite measures of family structure significantly predict student outcomes across English Language, Mathematics and General Knowledge in Benue State secondary schools.

H₀₂: *The indicators of family dynamics do not significantly predict student outcomes across English Language, Mathematics and General Knowledge in Benue State secondary schools.*

Table 2: Multivariate Regression Analysis of the Predictive Powers of the Indicators of Family Dynamics on Student Outcomes across English Language, Mathematics and General Knowledge

Dependent Variable	R-Squared	β Coefficients	T	df	F	p-value
Performance in English Language	.504	2.533	39.431	1	1554.794	0.000
Performance in Mathematics	.280	2.180	24.411	1	595.902	0.000
Performance in General Knowledge	.465	2.481	36.420	1	1326.423	0.000
Performance across Three Subjects (Pillai's Trace Test)	Not Applicable	Not Applicable	Not Applicable	3	532.779	0.000

Source: Data from researchers' fieldwork (analysed using SPSS Version 25 Output)

From the data presented in Table 2, it is evidently clear that the p-value of the multivariate regression analysis of the predictive powers of the indicators of family dynamics on student outcomes across English Language, Mathematics and General Knowledge, at 0.000, is less than the significance level of 0.05. The null hypothesis is therefore rejected. This implies that the indicators of family dynamics significantly predict student outcomes across English Language, Mathematics and General Knowledge in Benue State secondary schools.

5. Discussion

As indicated in the multivariate regression analysis reported in Table 1, the composite measures of family structure significantly predict student academic performance across English Language, Mathematics, and General Knowledge in Benue State. The rejection of the null hypothesis is confirmed by Pillai's Trace analysis of the overall result ($F = 1028.645, p = .000 < .05$). The R^2 values: .664 for English, .495 for Mathematics and .638 for General Knowledge – how that family structure explains 66.4%, 49.5%, and 63.8%

of the variance in student achievement, respectively. A one-unit increase in the composite measure of family structure yields about a 2.96-point rise in performance across all subjects, as signified by the corresponding β coefficients of 2.958, 2.945, and 2.957, with t-values of 55.026, 38.691, and 51.862, respectively. This to say that even a single-unit improvement in family structural stability – reflected in the Likert-based composite – translates into tangible academic gains across literacy, numeracy, and general knowledge domains. The present findings resonate with those of Mante et al. (2021), who observed that parental support and the organisation of family life played a decisive role in improving students' educational outcomes in Ghana. In a related study, Oba-Adenuga (2020) reported that differences in family structure were responsible for variations in academic performance among secondary school students in Lagos State, Nigeria. This pattern is further reinforced by the current data, where consistent β coefficients across subjects mirror these earlier observations.

As presented in Table 2, the multivariate regression results reveal that students' academic performance is significantly predicted by the indicators of family

dynamics across English Language, Mathematics, and General Knowledge in Benue State. The Pillai's Trace value ($F = 532.779$, $p = .000 < .05$) confirms a multivariate effect of family dynamics on student outcomes. This leads to the rejection of the null hypothesis. The R^2 values: .504 for English, .280 for Mathematics, and .465 for General Knowledge – indicate that 50.4%, 28.0%, and 46.5% of the variance in student achievement, respectively, are attributable to family dynamics. Similarly, β coefficients of 2.533, 2.180, and 2.481 – with corresponding t-values of 39.431, 24.411, and 36.420 – demonstrate that approximately 2.53-, 2.18-, and 2.48-point improvements in academic outcomes across these subjects are associated with a one-unit increase in the composite indicators of family dynamics. As affirmed by the findings, positive family dynamics – characterised by stable relationships, conducive study environments, effective academic communication, parental support, time management, emotional security, and balanced family interactions – significantly enhance student achievement across subjects and overall performance. Okeke, Nwipko and Anierobi (2020) reported a strong positive association between parental expectations and adolescents' academic success in Southeast Nigeria. This lends a voice in support of the present findings. A similar lending of a voice in support of the present findings can be said of Zhao and Zhao (2022) who found that family atmosphere, parent-child interactions, and household rules significantly influenced adolescents' academic outcomes, with peer relationships serving as partial mediators. More to that, the findings resonate with Oladeni-Sakirudeen (2018). This is because their study reported that variations in family relational stability and parenting quality significantly shaped students' educational achievements in secondary schools.

6. Conclusion

The structural and dynamic configurations of the family system operate with significant predictive powers on students' academic achievement in English Language, Mathematics, and General Knowledge. While the organizational and material framework that anchors educational engagement find the centre of their reality in the structural construction, the relational, emotional and communicative processes that sustain motivation and learning stability are embodied in the dynamic configuration. When these configurations operate in harmony, a balanced environment that promotes cognitive focus, emotional security, and consistent academic performance becomes a generative result. Conversely, imbalance or dysfunction within any of the configurations generates an ecological system where the family's integrative role in educational attainment becomes significantly undermined. Therefore, an elevated strength in configurations across both the structural and dynamic dimensions of the family system is central to enhancing students' educational outcomes and fostering sustainable academic growth.

7. Recommendations

Educational authorities and community stakeholders should promote initiatives that can reinforce the organisational stability of families through parental education, time management and material support systems which can enable consistent learning conditions at home.

Counselling units in schools should collaborate with parents to build effective channels of academic communication, emotional support, and conflict resolution within families, ensuring that the dynamic configuration of the family sustains students' motivation and learning focus.

Ministries of Education should embed family-oriented programmes into school improvement strategies, recognising that balanced structural and dynamic configurations within families are vital determinants of students' educational achievement.

Continuous assessment of how evolving family structures and interaction patterns affect students' academic outcomes should be institutionalised to generate empirical evidence that informs responsive family-school policies.

Schools should create structured platforms, such as periodic family engagement workshops and joint academic review meetings, to encourage active parental participation in the learning process and strengthen home-school synergy.

Social welfare and educational agencies should identify and support students from structurally or dynamically fragile families. Achieving this objective compels an imperative for the implementation of targeted interventions – like counselling, mentoring and scholarship programmes – that should be designed to mitigate the educational disadvantages arising from unstable home environments.

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Leadership Succession Planning in Higher Education: A Systematic Review

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Abstract. The sustainability of higher education institutions is critically contingent upon effective and continuous leadership, particularly within a challenging landscape of global competition and resource constraints. This study aimed to systematically review existing approaches, models, challenges, and future directions of leadership succession planning in higher education, with a focus on identifying best practices that support institutional sustainability and leadership readiness. A systematic literature review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure transparency and methodological rigor. Peer-reviewed studies published between 2018 and 2025 were sourced from leading academic databases, including Scopus, Web of Science, and Google Scholar. Out of 830 initially retrieved records, 54 studies met the inclusion criteria and were critically analyzed. The review identified four dominant leadership succession models in higher education: the talent management model, leadership pipeline model, mentoring and coaching models, and hybrid/ad hoc models. These frameworks collectively enhance leadership continuity, improve institutional governance, and sustain organizational performance. However, the study also revealed persistent challenges, including the absence of formalized succession frameworks, limited leadership development opportunities, resource constraints, and inadequate administrative commitment. Emerging practices emphasize embedding leadership development into academic career pathways, fostering diversity and inclusion in leadership pipelines, and utilizing data-driven technologies for talent management and informed decision-making. This study provides a comprehensive synthesis of leadership succession planning within higher education, presenting a holistic understanding of leadership succession dynamics. Furthermore, it proposes a roadmap for policy and practice aimed at strengthening institutional resilience and sustainability through strategic leadership development. The findings hold significant implications

for policymakers, higher education administrators, and human resource professionals. By institutionalizing succession planning as a strategic priority, HEIs can ensure smooth leadership transitions, preserve institutional memory, and enhance long-term sustainability. Such initiatives can also promote inclusive leadership cultures that reflect equity, innovation, and adaptability within academic governance.

Keywords: Leadership succession planning, Higher education, Institutional sustainability, Leadership continuity, PRISMA, Talent management, Governance.

1. Introduction

Leadership succession has become a critically important issue for higher education institutions (HEIs) worldwide (Chia et al., 2021; Hoque & Zheng, 2024). Universities and colleges now operate in a rapidly changing environment characterized by intense competition, fluctuating funding, demographic shifts, and the overarching imperative for institutional resilience (Hassan et al., 2025; Leal Filho et al., 2020). These pressures necessitate effective leadership that can steer institutions toward innovation and sustainability while remaining aligned with their core academic missions (Ahmad et al., 2020). However, leadership turnover, whether through retirement, resignation, or unexpected departure, poses serious risks, including strategic disruption, operational instability, and the irreversible loss of institutional memory (Agwoje & Okeleke, 2023; Okoye & Onuorah, 2025).

In response to these risks, leadership succession planning has emerged as a vital strategic process (Fusarelli et al., 2018). It is broadly defined as the systematic identification, development, and preparation of individuals to assume key roles (Wobodo et al., 2020; Ghazali et al., 2021; Zeynoddini et al., 2023). This is a well-established practice in the corporate sector but has

only gained significant attention in higher education in recent decades (Ahmad et al., 2020). Unlike corporations, HEIs face unique governance structures, collegial cultures, and academic traditions that complicate the design and implementation of succession plans (Ahmad & Keerio, 2019; Ogunode & Abubakar, 2020). For instance, leadership transitions in universities involve not only administrative leaders, such as presidents and deans, but also academic leaders who must balance complex managerial and scholarly expectations (Kohtamäki, 2019).

Globally, institutions are adopting varied models of succession planning, ranging from formal talent management pipelines to informal mentoring and ad hoc replacement strategies (Oppong et al., 2016; Bano et al., 2021). The effectiveness of these approaches is a subject of ongoing debate, particularly regarding their influence on institutional performance, sustainability, and strategic continuity (Jackson & Allen, 2022). Substantial evidence suggests that without deliberate succession planning, universities risk leadership vacuums and the erosion of institutional knowledge (Abbasi et al., 2018; Ismail et al., 2022). Conversely, well-structured succession systems enhance leadership readiness, reduce uncertainty, and promote organizational stability by ensuring a steady supply of capable leaders (Fuentes, 2020; Barton, 2019).

Despite its strategic importance, succession planning in higher education remains inconsistently applied, under-researched, and poorly institutionalized in many regions (Kleto et al., 2021; Bano et al., 2023). Many HEIs continue to rely on reactive approaches, which result in governance disruptions and misalignment with institutional strategy (Keerio & Ahmad, 2024). Significant concerns persist regarding leadership gaps caused by an aging academic workforce, limited investment in development programs, and the failure to build diverse and inclusive leadership pipelines (Musakuro & De Klerk, 2021; Dahlan et al., 2021). Furthermore, the absence of systematic frameworks fundamentally undermines institutional sustainability (Mazera, 2024; Yualinda et al., 2025; Leal Filho et al., 2020). While some universities in advanced economies have formal policies, many institutions, particularly in developing regions, face profound barriers including limited resources, governance constraints, and cultural resistance (Chia, Ghavifekr, & Razak, 2021).

The literature on this subject remains fragmented, with studies often focusing on specific institutions, regions, or leadership positions, but few synthesizing the evidence on global trends and prevailing models (Hoque & Zheng, 2024). This fragmentation creates a critical knowledge gap that this study seeks to address through a systematic review (Zeynoddini Bidmeshki, Adli, & Vaziri, 2023). Therefore, this study aims to conduct a systematic review of the literature on leadership succession planning in higher education. Specifically, the review seeks to:

- Identify the prevailing approaches and models of leadership succession planning adopted in universities and colleges worldwide.
- Examine the influence of succession planning on institutional performance, continuity, and sustainability.
- Analyze the challenges and barriers hindering effective implementation, recommend best practices and directions for future research.

This research significantly consolidates fragmented findings from across regions and institution types into a more coherent understanding of how succession planning operates in higher education. The insights will assist HEIs administrators, governing bodies, HR departments, and policy makers to design or refine succession frameworks that are contextually appropriate, inclusive, and effective. It will also draw attention to how diversity and equity can be embedded in leadership pipelines, ensuring that succession planning contributes not only to continuity but also to fairness.

In light of these dynamics, systematically reviewing and synthesizing leadership succession planning models for higher education institutions becomes a critical academic and practical endeavor. Such a review will not only map the current landscape of approaches but also identify best practices, gaps, and opportunities for developing more effective, context-sensitive models that can advance the twin goals of sustainability and education.

2. Research Methodology

This study adopted a systematic review methodology to synthesize empirical and conceptual evidence on leadership succession planning in higher education institutions (HEIs). The method was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) framework (Page et al., 2021; Akinson et al., 2025). The PRISMA approach was selected to ensure methodological transparency, minimize bias, and enhance the reliability and replicability of the review process across all stages (Puspitarini, 2023; Bamiro et al., 2023; Ahmed et al 2025). The methodology employed adhered to established standards in educational and organizational research, emphasizing a structured, evidence-based approach to the selection and analysis of scholarly literature.

This section outlines the specific procedures, including the research design, data sources, inclusion and exclusion criteria, and the processes for data extraction, analysis, and quality appraisal, adhering to established standards for systematic reviews in organizational and educational research.

Search Strategy

A comprehensive and systematic literature search was conducted across multiple reputable electronic

databases, including Scopus, Web of Science, ERIC, and Google Scholar. These databases were selected for their broad coverage of academic and management research relevant to higher education leadership. The search strategy was formulated using combinations of keywords and Boolean operators to ensure inclusivity and precision. The search terms included: “Succession planning” OR “leadership continuity” OR “leadership transition” AND “higher education” OR “universities” OR “academic institutions” AND “organizational sustainability” OR “institutional performance.” This combination of search terms captured both conceptual and empirical studies related to leadership succession planning in HEIs. The search process also aimed to minimize the limitations associated with relying solely on a single database.

2.1 Inclusion and Exclusion Criteria

To ensure methodological rigor and relevance, this review applied clearly defined inclusion and exclusion

criteria throughout the article selection process. Each study was thoroughly screened by title, abstract, and full text to confirm its alignment with the research objectives. Only peer-reviewed journal articles published between 2018 and 2025 were included, provided they focused on leadership succession planning within higher education institutions, were written in English, and offered empirical, conceptual, or theoretical insights related to institutional performance, leadership continuity, or sustainability. Furthermore, eligible studies were required to contribute meaningfully to at least one of the research objectives of this review. In contrast, publications such as editorials, commentaries, monographs, book chapters, and unrefereed conference papers were excluded. Studies published before 2018, written in languages other than English, or addressing leadership planning outside the higher education context were also omitted from consideration. Table 1 presents the summary of the inclusion and exclusion criteria used in this review.

Table 1: Inclusion and Exclusion Criteria

Criterion	Eligibility	Exclusion
Country	Global	—
Source Type	Peer-reviewed journal articles	Editorials, book chapters, conference papers, and reports
Language	English	Non-English publications
Time Range	2018–2025	Before 2018
Theme	Succession leadership planning in higher education	Leadership succession not related to education

2.2 Screening and Selection Process

The screening and selection process commenced with an extensive database search that yielded 830 articles addressing leadership succession planning and leadership continuity in institution. After the removal of duplicate records, 715 articles proceeded to the initial screening stage, where titles and abstracts were reviewed for relevance. Subsequently, 483 full-text articles were examined in detail to assess their methodological quality, contextual relevance, and alignment with the study’s objectives. Studies that were not peer-reviewed, written in languages other than English, or unrelated to the core research questions were excluded. Ultimately, 54 articles satisfied all inclusion criteria and were retained for the final synthesis.

Each selected study was systematically reviewed and analyzed based on the author(s), year of publication, geographical focus, research design, principal findings, and key implications. The extracted data were organized in a structured manner to ensure consistency and facilitate comparative evaluation across studies (Bamiro et al., 2024; Utaminingsih et al., 2023; Lawal et al., 2025). The entire process of identification, screening, eligibility assessment, and inclusion adhered to the PRISMA 2020 framework, with the detailed procedure illustrated in the PRISMA flow diagram presented in Figure 1.

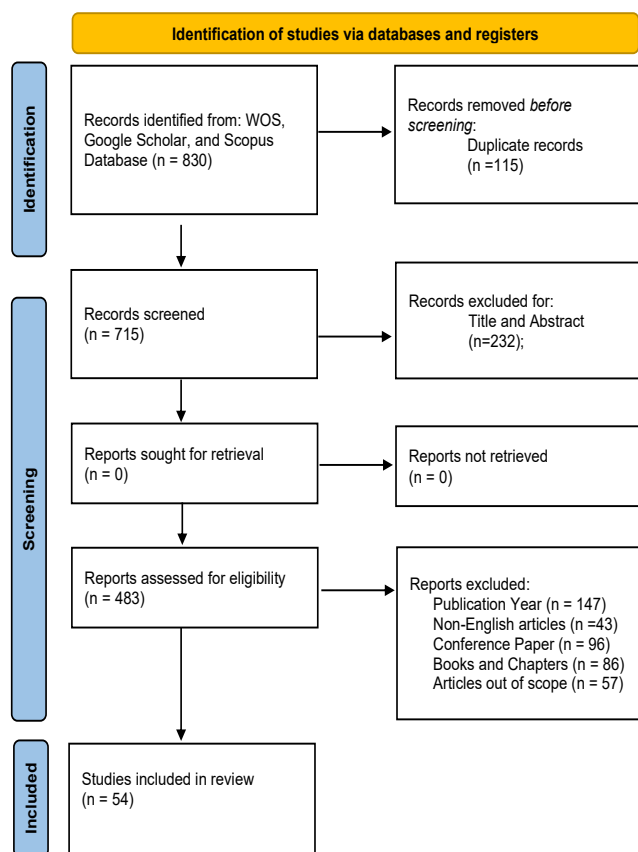


Figure 1: Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram.

3. Results

Following the systematic review and synthesis of selected studies, the extracted data were organized to provide a concise yet comprehensive overview of the existing research on leadership succession planning in higher education institutions. The analysis focused on identifying patterns across authorship, publication year, methodological approaches, geographical distribution, corresponding journal, and key findings. This approach enables a clearer understanding of how different contexts and research designs have contributed to the discourse on leadership continuity, institutional performance, and sustainability within higher education institutions. The synthesized findings from the reviewed literature are systematically organized and presented in Table 2, which forms the basis for the ensuing discussion and interpretation.

Table 2: Data Extraction

S/N	Authors & Year	Method	Country	Journal
	Abbasi et al. (2018)	Mixed	Iran	Iranian Journal of Management in the Islamic University
	Abbaspour et al. (2018)	Mixed	Iran	Journal of Research in Educational Systems
	Agwoje. (2023)	Quantitative	Nigeria	International Journal of Institutional Leadership, Policy and Management
	Ahaotu & Ogunode (2021)	Qualitative	Nigeria	Central Asian Journal of Literature, Philosophy and Culture
	Ahmad et al. (2018)	Quantitative	Malaysia	The Journal of Social Sciences Research
	Ahmad & Keerio. (2019)	Quantitative	Malaysia	International Journal of Engineering and Advanced Technology
	Ahmad et al. (2020)	Qualitative	Malaysia	Journal of Education and e-Learning Research
	AlAjmi. (2025)	Qualitative	Kuwait	Studies in Higher Education
	Alam (2022)	Qualitative	Bangladesh	Sustainability,
	Alghofaily. (2019)	Qualitative	Saudi Arabia	Journal of Social Sciences
	Alotaibi (2025)	Quantitative	Saudi Arabia	Asian Women
	Anos (2025)	Qualitative	Global	Edelweiss Applied Science and Technology
	Ayenalem & Taye (2025)	Qualitative	Ethiopia	Discover Education

NIU Journal of Educational Research

	Azman et al. (2023)	Qualitative	Global	<i>A Journal of Comparative and International Education</i>
	Bano et al. (2021)	Qualitative	Global	The European Journal of Social & Behavioural Sciences
	Bano et al. (2023)	Qualitative	Malaysia	Journal of Chemical Health Risks
	Barton (2019)	Qualitative	USA	<i>Christian Higher Education</i>
	Chia et al., (2021)	Qualitative	Malaysia	International Online Journal of Educational Leadership
	Dahlan et al. (2021)	Qualitative	Global	International Journal of Advanced and Applied Sciences
	Dahlan (2023)	Qualitative	Saudi Arabia	Cogent Business & Management
	Davenport et al. (2021)	Qualitative	Global	The western journal of emergency medicine
	Edward & Nichols, (2025)	Qualitative	USA	International Journal on Social and Education Sciences
	Ferguson & Wilmot (2025)	Qualitative	Jamaica	Caribbean Journal of Education and Development
	Fusarelli et al.,(2018)	Qualitative	USA	<i>Journal of Research on Leadership Education</i>
	Gandhi & Sen (2021)	Qualitative	India	Educational Management, Administration and Leadership
	George & Wooden (2023)	Qualitative	Global	Administrative Sciences
	Ghazali et al., (2021)	Qualitative	Malaysia	International Journal of Academic Research in Business and Social Sciences
	Hassan et al., (2025)	Qualitative	Global	European Journal of Education
	Hoque & Zheng, (2024)	Qualitative	Global	<i>Human Resources Management and Services</i>
	Ismail et al. (2022)	Quantitative	Malaysia	Journal of Positive Psychology
	Iwai et al. (2023)	Quantitative	USA	<i>JAMA Surgery</i>
	Jackson & Allen (2022)	Qualitative	Global	International Journal of Educational Management
	Keerio & Ahmad (2024)	Qualitative	Malaysia	<i>Journal of Applied Research in Higher Education</i>
	Keerio et al., (2022)	Qualitative	Malaysia	<i>International Journal of Services and Operations Management</i>
	Kleto et al., (2021)	Mixed	Serbia	Sustainability
	Kohtamaki, (2019)	Qualitative	Finland	Journal of Higher Education Policy and Management
	Leal Filho et al., (2022)	Quantitative	Global	<i>Sustainability</i>
	Masehela, (2025)	Qualitative	South Africa	Perspectives in Education
	Moodly & Toni (2019)	Qualitative	South Africa	South African Journal of Higher Education
	Musakuro (2022)	Mixed	South Africa	<i>SA Journal of Human Resource Management</i>
	Musakuro & Klerk (2021)	Qualitative	South Africa	<i>SA Journal of Human Resource Management</i>
	Mzera (2024)	Mixed	Kenya	European Journal of Computer Science and Information Technology
	Nevins-Bennete, (2025)	Qualitative	Global	International Journal of Social Science Research and Review
	Ogunode et al., (2020)	Qualitative	Nigeria	Jurnal Sinestesia
	Ogunode, (2020)	Qualitative	Nigeria	Jurnal Sinestesia
	Ogunode & Abubakar, (2020)	Qualitative	Nigeria	International Journal on Integrated Education
	Ogunode & Omenuko, (2021)	Qualitative	Nigeria	International Journal of Development and Public Policy
	Okoye & Onuorah, (2025)	Quantitative	Nigeria	African Journal of Educational Management, Teaching and Entrepreneurship Studies
	Olayinka, (2018)	Qualitative	Nigeria	International Journal of Research and Innovation in Social Science
	Ritchie, (2019)	Qualitative	Global	Management in Education
	Torabi et al., (2019)	Mixed	Global	Malaysian Online Journal of Educational Management
	Wobodo et al., (2020)	Qualitative	Nigeria	London Journal of Research in Management and Business
	Yualinda et al., (2025)	Qualitative	Indonesia	Journal of Information Systems and Informatics
	Zeynoddini et al., (2023)	Quantitative	Iran	<i>Quarterly Journal of Research and Planning in Higher Education</i>

The methodological analysis of the 54 reviewed studies shown in Figure 2 below indicates a predominant reliance on qualitative research designs, with 39 studies (72%) employing exploratory and descriptive approaches to examine leadership succession planning within higher education institutions. In comparison, quantitative methods were utilized in 9 studies (17%), while mixed-methods approaches accounted for 6 studies (11%). This distribution underscores the field’s strong orientation toward capturing contextual, experiential, and interpretive dimensions of leadership continuity rather than emphasizing statistical validation. Nonetheless, the relatively limited use of quantitative and mixed-methods research highlights the need for more empirically grounded and integrative investigations that blend qualitative depth with quantitative precision. Such methodological diversification would strengthen the robustness, generalizability, and policy relevance of future studies on leadership succession planning in higher education.

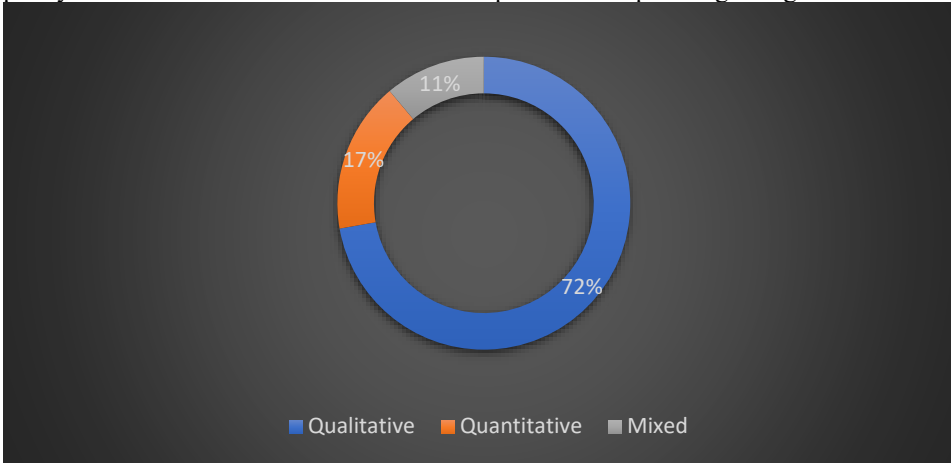


Figure 2: Methodological Distribution of the Reviewed Studies

The selected scholarly articles that satisfied the inclusion criteria span the period from 2018 to 2025, providing a comprehensive overview of the evolution of research on leadership succession planning in higher education. This temporal range facilitates the identification of key patterns, methodological developments, and shifts in research focus across the years. Notably, 2025 recorded the highest number of publications, totaling eleven, reflecting a growing academic interest and heightened awareness of leadership continuity and sustainability in higher education governance. The year 2021 also demonstrated substantial research activity, with 10 publications, while 2019 and 2023 each contributed 7 articles, followed by 2022 with 6, and 2018 and 2020 with 5 each. The trend in Figure 3 illustrates a progressive increase in scholarly engagement, particularly in the later years, suggesting that leadership succession planning has emerged as a central theme in educational leadership discourse amid global institutional transformations.

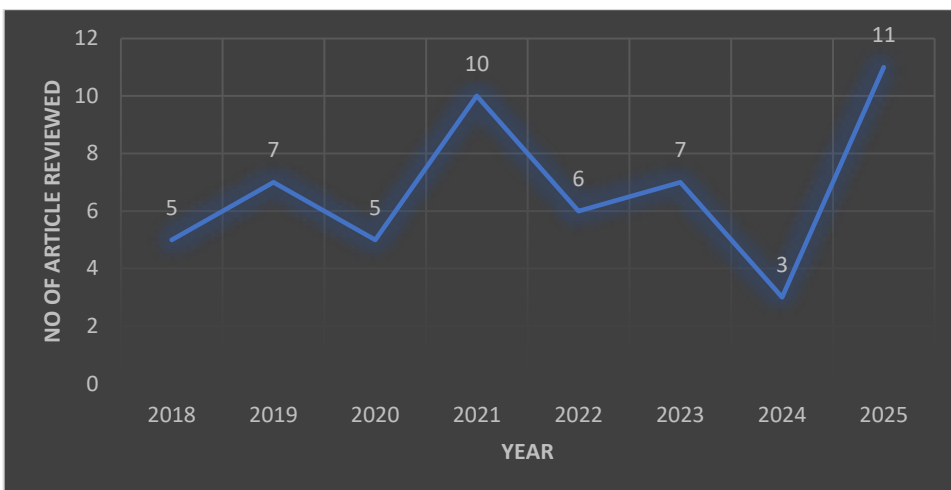


Figure 3: Distribution of Reviewed Studies by Publication Year (2018–2025)

The geographical distribution of the reviewed literature demonstrates a diverse global representation. Malaysia and Nigeria recorded the highest scholarly contributions, each with nine studies, indicating a growing emphasis on leadership succession and governance practices within these regions. Additionally, thirteen studies adopted a global or comparative perspective, reflecting an increasing recognition of leadership succession planning as a universal concern in higher education. Moderate research outputs were observed from Saudi Arabia, Iran, South Africa, and the United States, while

countries such as Bangladesh, Ethiopia, Finland, India, Indonesia, Jamaica, Kenya, Kuwait, and Serbia contributed a single study each.

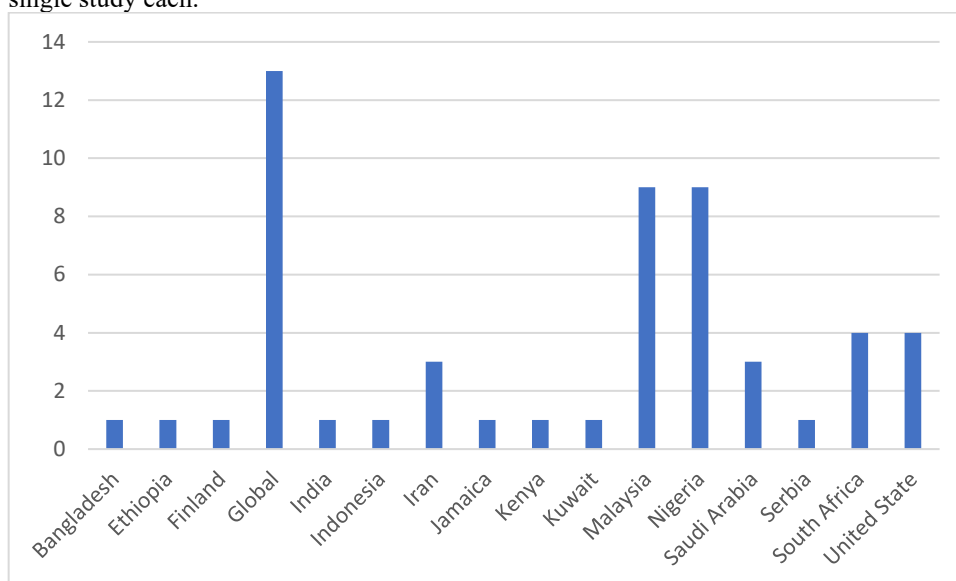


Figure 4: Geographical Distribution of Reviewed Studies

4. Discussion

4.1 Prevailing Approaches and Models of Leadership Succession Planning

Leadership succession planning in higher education draws from a variety of theoretical models and practical approaches. While the models provide the conceptual foundation for leadership development, the approaches translate these frameworks into concrete strategies for ensuring institutional continuity and sustainability. A review of the literature shows four dominant models: Talent Management, Leadership Pipeline, Mentoring and Coaching, and Hybrid Models, each of which finds practical expression in higher education institutions through approaches such as developmental succession, emergency/replacement planning, phased transitions, and interim-to-permanent arrangements.

Talent Management Model and Developmental Succession Planning

The talent management model provides a strategic framework for ensuring leadership continuity through the systematic identification, development, and retention of high-potential employees (Hoque & Zheng, 2024; Ahmad et al., 2020). In higher education, this model is operationalized through developmental succession planning, a proactive and long-term approach where universities cultivate robust leadership pipelines by strategically investing in targeted training programs, mentorship, and job rotations (Zeynoddini et al., 2023; Musakuro, 2022). For instance, future leaders are often given strategic "stretch" assignments to broaden their managerial and strategic competencies, thereby preparing them to assume complex senior roles (Wobodo et al., 2020). This comprehensive approach not only nurtures a culture of continuous learning but

also directly minimizes disruptive leadership gaps and strengthens long-term institutional resilience by ensuring a steady, internal supply of capable and well-prepared leaders (Musakuro & De Klerk, 2021).

Leadership Pipeline Model and Phased Transition Planning

The leadership pipeline model provides a structured framework for systematically moving individuals through successive leadership levels by progressively equipping them with the necessary skills, values, and experiences (Fuentes, 2020). Within the context of higher education, this model often manifests through phased or overlapping transition planning, an approach particularly common for senior executive roles like vice-chancellors and presidents (Jackson & Allen, 2022; Barton, 2019). In this model, outgoing and incoming leaders work collaboratively during a defined transition period, a process that is critical for facilitating the seamless transfer of invaluable institutional knowledge, strategic priorities, and key external relationships (Anos, 2025). By ensuring this direct and guided handover, phased transitions significantly reduce operational disruption, enhance the stability of institutional governance, and ultimately safeguard the strategic continuity of the university.

Mentoring and Coaching Models and Interim-to-Permanent Bridge

Mentoring and coaching models are fundamentally rooted in the principle that effective leadership development requires relational and experiential learning, where seasoned leaders provide dedicated guidance to emerging talent. In higher education, this approach is frequently operationalized through interim-to-permanent bridge arrangements, wherein internal

candidates serve in acting roles while receiving structured mentorship and being evaluated for long-term appointments (Dahlan et al., 2021). This model offers a dual benefit: it allows institutions to authentically assess leadership capabilities under real-world conditions while simultaneously providing aspiring leaders with targeted coaching and direct exposure to complex institutional decision-making (Nevins-Bennett, 2025; Cohall, 2021). The efficacy of this relational approach is underscored by research across diverse contexts, from historically Black colleges and universities to South African research-intensive institutions, which highlights how structured mentorship programs are critical for professional socialization, skill development, and building academic resilience (Edwards & Nichols, 2025; Masehela, 2025; Ferguson & Wilmot, 2025). By integrating mentorship directly into the succession pathway, universities can cultivate a more prepared, confident, and contextually aware leadership pipeline.

Hybrid/Ad Hoc Models and Emergency/Replacement Planning

Hybrid or ad hoc models of succession planning combine elements from various structured frameworks, often shaped by institutional needs, resource availability, and specific contextual challenges (Oppong et al., 2016; Wobodo et al., 2020). The most visible manifestation of this pragmatic approach is emergency or replacement planning, a reactive yet essential strategy where institutions identify immediate backups for critical positions to mitigate risks from sudden departures (Bano et al., 2021). As noted in studies of leadership transitions, this model is fundamentally risk-averse, focusing on organizational resilience in the face of unforeseen disruptions (Fusarelli et al., 2018; Barton, 2019). Although it is less developmental than long-term, pipeline-based approaches, emergency planning serves a vital function by ensuring operational continuity and protecting institutional performance during periods of unexpected leadership vacuums, thereby providing a foundational layer of stability upon which more strategic succession efforts can be built.

Despite their differences, effective leadership succession planning models and approaches share common best practices: identifying critical roles, assessing talent through performance reviews and competency evaluations, aligning succession planning with institutional strategy, promoting transparency, and ensuring diversity in leadership pipelines (Gallo, 2020). Increasingly, technology such as talent management systems and analytics tools are being leveraged to monitor leadership readiness, career aspirations, and succession risks (Cappelli & Keller, 2017).

In sum, leadership succession planning in higher education is not a one-size-fits-all process. Institutions often adapt and combine models with practical approaches to balance long-term development with short-term continuity needs. The choice of model and approach is influenced by institutional size, governance

structures, resource availability, and cultural context, underscoring the importance of flexibility and strategic alignment

4.2 Influence of Leadership Succession Planning on Institutional Performance, Continuity, and Sustainability in Higher Education

Leadership succession planning has become an essential strategic process for shaping institutional performance, ensuring leadership continuity, and promoting organizational sustainability within higher education institutions (HEIs) (Keerio et al., 2022). In an era increasingly defined by globalization, demographic transitions, and rapid technological advancement, universities are recognizing the critical importance of structured succession systems as vital mechanisms for preserving institutional stability and sustaining academic excellence (Hassan et al., 2025; Ogunode & Omenuko, 2021). This section synthesizes existing literature to examine the multifaceted impact of leadership succession planning, arguing that its influence extends across institutional performance, continuity, and long-term sustainability. As emphasized by Ahmad et al. (2020), an effective succession strategy is foundational to this endeavor. The discussion, therefore, posits that succession planning extends far beyond a traditional human resource function; it represents a fundamental strategic imperative that directly influences an institution's future direction, resilience, and capacity for adaptation in a complex and changing landscape

Effective leadership succession planning serves as a direct catalyst for improved institutional performance by ensuring that leadership transitions do not disrupt strategic momentum or operational efficiency. When potential leaders are systematically identified and developed through structured talent pipelines, they acquire the necessary competencies to sustain and enhance institutional productivity (Wobodo et al., 2020; Azman et al., 2023). For instance, these proactive systems promote the innovation, responsiveness, and sound governance essential for achieving key performance indicators, from research output to student satisfaction (Zaynoddini et al., 2023). Furthermore, institutions that implement structured succession frameworks report improved decision-making and greater faculty engagement, as staff are demonstrably motivated by transparent career progression opportunities (Ogunode, 2020; Ismail et al., 2022). By embedding leadership development into the core of organizational strategy, as advocated by Ghazali et al. (2021), universities ensure that future leaders possess the specific competencies required to drive institutional goals such as global competitiveness and research excellence. In this sense, far from being a mere administrative procedure, strategic succession planning becomes a powerful driver of institutional innovation and long-term organizational agility.

Leadership continuity is a cornerstone for maintaining strategic direction and institutional stability in higher education. Effective succession planning directly minimizes disruptive leadership vacuums by ensuring that capable and prepared successors are readily available to assume key roles, a process that is only possible through a structured talent pipeline (Chia et al., 2021; Wobodo et al., 2020). Without such a system, universities risk operational paralysis, policy reversals, and profound stakeholder uncertainty when senior leaders depart, a risk that is acutely heightened in the absence of formal succession policies (Hoque & Zheng, 2024; Okoye & Onuorah, 2025). Structured succession frameworks, which can include phased transition approaches where outgoing and incoming leaders overlap, are therefore essential for facilitating the smooth transfer of critical institutional knowledge and preserving governance integrity (Agwoje & Okeleke, 2023). This continuity is particularly crucial in the academic environment, where leadership transitions can otherwise disrupt multi-year research initiatives, complex funding cycles, and strategic partnerships. Furthermore, a visible and planned succession process instills confidence among faculty, students, and external stakeholders by signaling institutional foresight and robust governance. The resulting stability not only safeguards academic quality but also strengthens the university's public reputation and bolsters the trust essential for its long-term sustainability (Leal Filho et al., 2020).

From a long-term perspective, leadership succession planning is fundamental to the sustainability of higher education institutions, as sustainable universities are those capable of maintaining leadership excellence, financial stability, and social responsibility across generations (Fusarelli et al., 2018; Leal Filho et al., 2020). Succession planning contributes directly to this sustainability by systematically embedding leadership development within the institutional culture and aligning it with long-term strategic priorities (Dahlan et al., 2021). This strategic alignment ensures that emerging leaders are prepared to address contemporary challenges such as funding limitations, global competition, and digital transformation. Furthermore, as Jackson and Allen (2022) suggest, the value of succession planning is realized when it is critically evaluated and well-integrated, avoiding a one-size-fits-all approach. Crucially, succession systems that proactively prioritize diversity and inclusion contribute to institutional sustainability by cultivating a leadership base that reflects a wide range of perspectives and experiences. Such inclusivity is a key driver of innovation and enhances an institution's resilience in the face of an evolving academic landscape.

Integrating succession planning into the core of institutional strategy transforms it from a reactive personnel management exercise into a central element of strategic governance. When leadership development is explicitly aligned with an institution's mission and

vision, universities cultivate a sustainable leadership culture that underpins long-term academic and administrative continuity. This strategic integration, as research in diverse contexts confirms, involves embedding succession planning within performance evaluation systems, structured mentoring programs, and clearly defined leadership competency frameworks to ensure institutional goals are consistently pursued across leadership generations (Ahmad et al., 2018; Torabi et al., 2019). As emphasized by Ritchie (2019), this approach fosters accountability by establishing clear expectations for leadership readiness at all levels. Furthermore, comprehensive models demonstrate that such integration enhances overall institutional coherence by creating a direct link between leadership pipelines, career planning, and strategic objectives (Abbaspour et al., 2018). The cumulative effect of this strategic alignment is a significant enhancement in organizational decision-making, operational efficiency, and resilience.

In essence, leadership succession planning acts as both a stabilizing and transformative force within higher education institutions. It stabilizes performance by reducing leadership disruptions and builds institutional capacity for long-term sustainability through talent development and strategic foresight. By aligning leadership development with institutional vision and values, succession planning ensures that higher education institutions remain resilient, competitive, and mission-driven in an ever-evolving educational landscape.

4.3 Challenges and Barriers to Effective Leadership Succession Planning in Higher Education

While the strategic value of leadership succession planning in higher education institutions (HEIs) is widely acknowledged, its effective implementation remains constrained by numerous organizational, cultural, and structural challenges. Universities operate in complex environments where leadership succession is often influenced by deeply rooted academic traditions, bureaucratic processes, and competing stakeholder interests, a dynamic observed in different contexts (Kohtamäki, 2019; Abbasi et al., 2018). Consequently, as noted in studies on implementation challenges, many HEIs struggle to develop and sustain systematic succession frameworks that ensure leadership continuity and institutional resilience (Bano et al., 2023). This section critically examines the major barriers hindering effective leadership succession planning in higher education, including organizational culture and resistance to change, inadequate institutional frameworks, limited leadership development mechanisms, resource constraints, and issues of diversity, transparency, and governance.

Organizational Culture and Resistance to Change

One of the most pervasive barriers to leadership succession planning in higher education is entrenched

institutional culture. HEIs often operate within deeply rooted collegial and academic traditions that emphasize autonomy and tenure, a climate that can inadvertently discourage proactive, centralized leadership planning (Abbasi et al., 2018). Within this context, academic leaders and faculty members may perceive formal succession initiatives as a threat to established hierarchies or even as an encroachment on academic freedom (Ahmad & Keerio, 2019). This cultural resistance is compounded by a frequent absence of shared understanding regarding the strategic importance of succession planning, a factor identified as critical in models linking organizational culture to succession outcomes (Keerio et al., 2022; Keerio and Ahmad, 2024). The resulting resistance often manifests in ad hoc or politically driven appointments rather than merit-based, competency-oriented selections, a dynamic that can be particularly pronounced and exclusionary in gendered institutional cultures (Moodly & Toni, 2019; Ogunode & Omenuko, 2021). Ultimately, transforming such deeply held cultural norms requires sustained leadership commitment and a deliberate reframing of succession planning as a collective, developmental process rather than a simple replacement exercise.

Lack of Formal Institutional Frameworks

A critical institutional weakness in many higher education institutions (HEIs) is the absence of formal policies and frameworks governing leadership succession. As noted in systematic reviews of the field, many institutions continue to rely on informal or reactive methods to fill leadership vacancies, a process often triggered by sudden departures or political appointments rather than strategic foresight (Ogunode, 2020; Ahaotu & Ogunode, 2021). This lack of a codified succession framework leads to significant discontinuities in strategic direction and the loss of critical institutional knowledge during leadership transitions (Agwoje & Okeleke, 2023). Furthermore, Okoye & Onuorah (2025) highlighted that the ambiguity surrounding succession procedures can foster perceptions of bias and favoritism, which erodes staff morale and undermines institutional credibility. Therefore, establishing a structured succession framework that is formally anchored in institutional policy and governance documents is crucial for ensuring transparency, maintaining consistency, and securing alignment with an institution's long-term strategic goals (Hoque & Zheng, 2024).

Inadequate Leadership Development and Talent Management Systems

A fundamental challenge undermining succession planning in higher education is the frequent absence of a well-designed leadership pipeline, which requires systematic talent identification and capacity-building programs that many institutions lack (Fuentes, 2020). This systemic gap is exacerbated by the fact that academic promotions are often based predominantly on scholarly achievements rather than demonstrated

leadership competencies, creating a significant mismatch between administrative demands and the actual preparedness of new leaders (Kohtamäki, 2019; Anos, 2025). These issues are compounded by limited structured mentorship and professional development opportunities, which further weaken the talent pool, a challenge noted in contexts ranging from South Africa to Iran (Musakuro & De Klerk, 2021; Abbasi et al., 2018). The cumulative effect of this inadequate pipeline development, as observed in studies of tertiary institutions, results in critical skill gaps, leadership vacuums, and inconsistent institutional performance during transitions (Wobodo et al., 2020). Therefore, embedding intentional leadership development into standard academic career pathways is essential to mitigate these challenges by preparing potential successors early and continuously.

Resource Constraints and Financial Limitations

The implementation of structured succession planning in higher education institutions (HEIs) is often hindered by significant financial constraints, particularly in developing countries. These initiatives require substantial investment in leadership training, capacity development, and institutional research; however, competing budgetary priorities often divert funds toward immediate academic and infrastructural needs, leaving little room for long-term human capital planning (Abdullah, 2017; Leal Filho et al., 2020). This scarcity of resources limits access to critical assets such as external consultants, specialized training programs, and sophisticated succession management technologies (Chia et al., 2021). As noted in Azman et al. (2023), a study of ASEAN countries, these financial limitations pose a fundamental challenge to developing a robust leadership pipeline in public higher education (Azman et al., 2023). Consequently, instead of sustainable strategies, institutions are often forced to rely on short-term or reactive solutions that ultimately fail to ensure stable leadership continuity.

Governance and Political Interference

Governance dynamics and political interference constitute a significant barrier to effective succession planning, particularly in public universities. A primary challenge is that leadership appointments are often influenced by external political or governmental interests rather than being based on institutional merit or strategic priorities (Ogunode, 2020; Alam, 2022). This external interference directly undermines transparency and can discourage potential internal candidates, thereby destabilizing institutional planning processes (Ogunode et al., 2020; Keerio et al., 2022). In contexts where leadership tenure is politically determined, as noted in the Nigerian context by Olayinka (2018), succession planning becomes inherently uncertain and rendered ineffective. Consequently, establishing robust governance autonomy and enforcing merit-based selection criteria is widely recognized as an essential

precondition for fostering sustainable and effective leadership succession (Ogunode & Omenuko, 2021; Keerio & Ahmad, 2024).

Diversity, Inclusion, and Equity Challenges

A critical failure in many succession planning processes within higher education is their inadequate reflection of diversity across gender, ethnicity, and generational representation (Gandhi & Sen, 2020; Daveenport et al., 2023). Consequently, leadership roles in universities remain disproportionately occupied by homogeneous demographic groups, which inherently limits the potential for inclusive and innovative governance (Olson-Strom & Rao, 2020; Iwai et al., 2023). This systemic exclusion, particularly of women and early-career academics from formal succession pipelines, not only perpetuates institutional inequality but also deprives universities of the diverse perspectives that are critical for strategic adaptation and creative problem-solving (Dahlan, 2023; Alotaibi, 2025). Addressing these deeply embedded disparities therefore necessitates the implementation of deliberate institutional policies that promote diversity, establish robust mentorship programs, and ensure equitable access to leadership development opportunities (AlAjim et al., 2025).

Limited Awareness and Commitment Among Senior Leaders

A significant impediment to effective succession planning is a pervasive lack of awareness and commitment among incumbent leaders (Bano et al., 2023). Senior administrators frequently prioritize immediate operational demands over the long-term investment of leadership development, a tendency often compounded by a reluctance to identify successors due to perceived threats to their own authority or position (Ghazali et al., 2021; Ahaotu & Ogunode, 2021). This leadership myopia results in a failure to institutionalize succession planning as a core component of organizational strategy, a concern echoed by Jackson and Allen (2022), who question the universal application of succession models without deep cultural integration. To counter this, building executive awareness through targeted capacity-building programs and embedding performance-linked accountability mechanisms are critical steps toward establishing succession planning as a collective, strategic responsibility (Ismail et al., 2022).

In summary, the challenges hindering effective leadership succession planning in higher education are multidimensional—spanning cultural, structural, financial, and governance domains. The persistence of informal leadership transition practices, coupled with limited development systems and external interference, continues to impede institutional progress toward sustainable leadership continuity. Addressing these barriers requires deliberate institutional reforms that integrate succession planning into broader strategic

frameworks, foster leadership capacity at multiple levels, and promote a culture of inclusivity, transparency, and accountability. Overcoming these obstacles is not only vital for leadership stability but also essential for sustaining performance, innovation, and resilience in the ever-evolving landscape of higher education.

4.4 Future Research Directions and Best Practices for Strengthening Leadership Succession Planning in Higher Education

As higher education institutions (HEIs) evolve within a rapidly transforming global landscape, the need for robust, evidence-based leadership succession planning has become increasingly critical (Dahlan et al., 2021). Although extensive research has examined leadership development and organizational sustainability, empirical studies focusing specifically on succession planning within the higher education context remain limited and fragmented (Zaynoddini et al., 2023; Hoque & Zhang, 2024). Future scholarship must therefore move beyond descriptive and conceptual analyses to explore more nuanced, context-sensitive frameworks that address emerging leadership challenges in universities. This section discusses promising directions for future research and synthesizes best practices that can enhance the design and implementation of effective leadership succession planning in HEIs worldwide. These practices integrate both strategic and operational dimensions, ensuring sustainability and alignment with institutional goals.

Effective leadership succession planning begins with the institutionalization of clear policies and governance frameworks (Keerio et al., 2022). Universities must develop comprehensive succession management policies that outline well-defined procedures, timelines, and accountability structures to guide leadership transitions (Ghazali et al., 2021; Chia et al., 2021). Integrating succession planning into broader strategic and human resource management systems ensures institutional continuity, coherence, and stability across leadership cycles (Keerio & Ahmad, 2024). A well-formalized governance structure also helps to minimize disruptions during leadership changes, promoting transparency and institutional resilience (Alam, 2022).

Furthermore, embedding leadership development within academic pathways is vital for cultivating a steady pipeline of competent leaders (Fuentes, 2022). In the study by Cohall (2021), succession planning should be closely aligned with leadership development initiatives that identify, mentor, and prepare potential leaders at multiple organizational levels. By integrating leadership competencies into faculty development and administrative promotion systems, institutions can foster a culture of continuous professional growth and readiness (Edward & Nicholes, 2025; Ferguson & Wilmot, 2025). Structured mentorship programs, executive coaching, and cross-functional assignments

further enhance leadership capacity and ensure that potential successors are adequately prepared to assume critical roles when required (Jackson & Allen, 2022; Anos, 2025).

An equally important dimension of succession planning involves promoting diversity, equity, and inclusion in leadership pipelines. Effective succession planning should intentionally incorporate diversity objectives that ensure equitable representation of underrepresented groups in leadership positions (Alghofaily, 2019; Ayenalem & Taye, 2025). This approach not only enhances institutional legitimacy but also strengthens decision-making through diverse perspectives (Iwai et al., 2023; Davenport et al., 2022). Inclusive leadership development programs and transparent recruitment and advancement criteria contribute to building trust, fairness, and shared ownership among institutional stakeholders (Ghandi & Sen, 2021; Iwei et al., 2023).

In the contemporary digital era, leveraging data analytics and technology is increasingly essential to strengthening leadership succession systems (Kleto et al., 2021). Data-driven tools and talent management platforms enable institutions to systematically track performance, identify skill gaps, and anticipate future leadership needs (George & Wooden, 2023; Attamimi et al., 2024). The use of technologies such as competency-mapping software and AI-based assessment tools enhances decision-making transparency, mitigates bias, and optimizes leadership placement processes (Yualinda et al., 2025). Integrating these technologies also facilitates evidence-based evaluation and supports the long-term sustainability of succession strategies (Mzera, 2024).

Equally, top-level commitment and governance support are fundamental to the success of leadership succession planning. Senior administrators, governing councils, and boards of trustees must champion succession planning as a strategic institutional priority (Ritchie, 2019; Torabi et al., 2019). Their involvement ensures adequate allocation of resources, the incorporation of leadership development into institutional key performance indicators (KPIs), and the establishment of accountability systems that reinforce leadership continuity (Fusarelli et al., 2018; Wobodo, 2020). Without active executive engagement, succession initiatives risk being treated as peripheral rather than integral to institutional growth and sustainability (Nevis-Bennett, 2025).

Additionally, cultivating a learning and mentorship culture within the institution provides a strong foundation for leadership continuity. A thriving mentorship ecosystem promotes knowledge sharing and supports the transfer of institutional memory across generations of leaders (Mazerolle et al., 2018; Masehela, 2025). Establishing leadership academies, fellowship programs, and peer learning communities encourages collaboration, innovation, and institutional

cohesion. Such initiatives not only prepare future leaders but also embed leadership development within the organizational culture (Edward & Nichols, 2025).

Finally, regular review and evaluation of succession planning frameworks are critical to maintaining their relevance and effectiveness. HEIs operate in dynamic environments influenced by policy shifts, demographic changes, and evolving academic priorities (Kohtamaki, 2019; Azman et al., 2023). Therefore, continuous monitoring through leadership audits, feedback systems, and performance evaluations ensures that succession planning processes remain adaptable and evidence-based (Bano et al., 2023; Hassan et al., 2025). By institutionalizing evaluation mechanisms, universities can identify emerging challenges early and refine their succession strategies accordingly (Ogunode & Abubakar 2020; Ahmad et al., 2020).

In summary, strengthening leadership succession planning in higher education requires a multifaceted approach that integrates strategic vision, inclusive practices, technological innovation, and continuous improvement. Future research should build on these foundations by developing empirically tested models and context-specific frameworks that can guide institutions toward sustainable leadership continuity and long-term organizational excellence.

5. Conclusion

This systematic review underscores the growing significance of leadership succession planning as a cornerstone for ensuring continuity, institutional stability, and sustainable development in higher education. By synthesizing diverse models and frameworks across different geographical, organizational, and cultural contexts, the study identified key approaches such as talent management, leadership pipeline development, mentorship and coaching models, and hybrid succession strategies that collectively enhance leadership preparedness and organizational resilience. These models have proven effective in fostering institutional performance, strengthening governance structures, and maintaining academic excellence during leadership transitions.

However, the review also revealed persistent challenges that limit the effectiveness and institutionalization of succession planning practices. These include organizational culture and resistance to change, inadequate institutional frameworks, limited leadership development mechanisms, resource constraints, and issues of diversity, transparency, and governance. Despite these constraints, the study highlights emerging opportunities through data-driven talent management systems, inclusive leadership pipelines, strategic policy frameworks, and digital transformation initiatives that can support the next generation of academic leaders.

Ultimately, effective leadership succession planning in higher education must move beyond ad hoc replacement processes to embrace a strategic, systems-thinking approach that integrates leadership development, institutional governance, and sustainability principles. Strengthened policy support, capacity building, and continuous mentorship will be vital to embedding leadership succession into the strategic culture of higher education institutions. By doing so, universities can not only ensure seamless leadership transitions but also cultivate resilient, visionary leaders capable of advancing innovation, equity, and sustainable growth in the academic landscape.

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Effectiveness of Modelling Therapy and Cognitive Behaviour Therapy on Aggression among In-School Adolescents who gamble in Lagos Metropolis

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Abstract. Gambling among in-school adolescents has become a major psychological and social concern, affecting academic performance, mental health, and peer relationships. This study examined the effectiveness of Cognitive Behaviour Therapy (CBT) and Modelling Therapy (MT) on aggression among gambling adolescents in secondary schools within Education District II of Lagos State, Nigeria. A descriptive survey design was adopted, with a sample of 250 students selected through stratified random sampling. Data were collected using the Gambling Related Cognition Scale (GRCS) and Verbal Aggressiveness Scale (VAS). Three hypotheses were tested at the 0.05 significance level using mean, standard deviation, and ANCOVA. Findings revealed that gambling significantly influenced aggression, while age had no significant effect. Both CBT and MT were effective in reducing aggression compared to the control group. It was recommended that teachers and school administrators be trained in basic CBT and modelling techniques to identify and manage aggression early. Strict enforcement of age restrictions on physical and online gambling was also advised.

Keywords: Aggression, Cognitive Behaviour Therapy, Modelling Therapy, Gambling, In-school Adolescents

1. Introduction

Adolescence is a developmental period marked by heightened susceptibility to risky behaviours, including gambling (Olasupo, 2022). Studies in Nigeria have shown that gambling behaviour among adolescents is influenced by peer pressure, media, personality traits, distorted gambling cognitions and easy accessibility of betting venues (Omoniyi & Matthew, 2023; Nwamadi, 2022). Aggressive behaviours, including physical and verbal aggression, have negative consequences for the individuals involved, their peers, and the broader school environment, affecting academic performance, social relationships, and future adjustment.

Modelling Therapy based on social learning theory involves exposing adolescents to role models demonstrating non-aggressive behaviour, followed by

guided rehearsal and reinforcement. Meanwhile, CBT works by helping individuals recognise and restructure maladaptive cognitions and regulate emotional and behavioural responses. Both therapies have shown promises for managing conduct problems and aggression in various settings. For example, a randomized controlled trial in Ibadan found that CBT and social skills training considerably reduced symptoms of conduct disorder among in-school adolescents.

Given the co-occurrence of gambling behaviour which can provoke frustration, loss, conflict, distorted thinking and aggression, there is a need to test whether these interventions Modelling Therapy and CBT can reduce aggressive behaviours in adolescents involved in gambling in Lagos schools. Lagos Metropolis, with its large urban population and availability of gambling avenues, represents a critical setting for this investigation.

Aggression among in-school adolescents has emerged as one of the critical psychological and behavioural challenges associated with gambling involvement. Aggression is generally defined as any behaviour intended to harm another individual, either physically or psychologically (Anderson & Bushman, 2021). During adolescence a developmental phase characterized by heightened emotional reactivity and impulsivity, exposure to gambling activities can exacerbate aggressive tendencies due to frustration, financial loss, and peer competition. The stress and tension resulting from gambling outcomes often translate into irritability, anger, and antisocial behaviour in school settings (Olasupo, 2022).

Several studies have linked gambling with aggression among adolescents. Gambling often generates emotional arousal like that found in other risk-taking behaviours such as substance abuse or delinquency (Raisamo et al., 2023). The competitive nature of gambling, coupled with the pressure to win and recover losses, fosters frustration that may manifest as aggression toward peers, teachers, or family members. According to Nwamadi (2022), adolescent gamblers tend to display higher rates of verbal altercations and

physical confrontations than non-gamblers. Similarly, Omoniyi and Matthew (2023) observed that gambling often leads to classroom disruptions, fights, and disciplinary cases in among in-school adolescents.

From a psychological perspective, aggression may stem from cognitive distortions developed during gambling, such as the illusion of control, misinterpretation of chance, and external attribution of failure (Calado & Griffiths, 2022). These cognitive distortions often generate anger, resentment, and hostility toward perceived causes of loss. Adolescents with poor emotional regulation skills may find it difficult to process these negative emotions appropriately, leading to aggressive outbursts.

The relationship between gambling and aggression can also be explained through Bandura's Social Learning Theory, which posits that adolescents learn behaviours by observing and imitating models within their environment (Bandura, 1977; expanded by Schunk, 2020). When adolescents observe peers, online influencers, or family members engaging in gambling and displaying aggressive responses to winning or losing, they may internalize such behaviours as acceptable coping mechanisms. Social media platforms and betting advertisements often portray gambling as competitive and masculine, indirectly reinforcing aggressive and risk-oriented attitudes among male adolescents (Okafor & Duru, 2021).

Peer influence is particularly potent during adolescence. According to Agbo and Ojedokun (2023), adolescents who associate with gambling peers are more likely to exhibit aggression, truancy, and defiance towards authority. Peer groups often glorify winning while ridiculing losers, which contributes to aggression and status-seeking behaviours within the group dynamic. Furthermore, adolescents who experience gambling losses may attempt to regain social validation through aggression or delinquent acts such as theft or bullying.

The Frustration Aggression Hypothesis, first developed by Dollard et al. (1939) and extended in later works (Berkowitz, 2019), suggests that aggression is often the result of blocked goals or frustrations. For adolescent gamblers, financial loss or inability to achieve expected wins leads to emotional frustration, which, without proper coping strategies, is displaced onto others as aggression. Olasupo (2022) found that adolescents who frequently gamble exhibit elevated frustration and irritability levels, often expressed as confrontational behaviour toward teachers and peers. Additionally, emotional dysregulation plays a mediating role. Adolescents involved in gambling often have difficulties managing emotions such as disappointment, shame, and guilt after losses (Rogier & Velotti, 2021). These negative emotions may manifest as reactive aggression, especially in environments like schools where social competition and peer judgment are common.

Gender also influences the manifestation of aggression among adolescent gamblers. Studies indicate that male adolescents are more prone to both gambling and aggression than females due to socio-cultural expectations that promote risk-taking and competitiveness among boys (Ade, 2020; Okafor & Duru, 2021). In Nigerian settings, where gambling has become normalized through sports betting and online platforms, male adolescents may perceive gambling as a marker of social identity and dominance, leading to aggressive reactions when their self-esteem is threatened by losses (Omoniyi & Matthew, 2023).

Moreover, environmental stressors such as poverty, family instability, and lack of parental monitoring compound the risk of aggression among adolescents who gamble (Nnamdi & Okeke, 2023). Many students engage in gambling as a means of economic escape or social inclusion, yet the consistent failure to achieve expected outcomes results in frustration and behavioural maladjustment.

The increasing prevalence of aggression linked to adolescent gambling underscores the need for psychological interventions targeting emotional regulation and behavioural control. Evidence from Nigerian and international studies shows that Cognitive Behavioural Therapy (CBT) and Modelling Therapy effectively address aggressive behaviours among adolescents (Koki & Butu, 2022; Sarchiapone et al., 2020). CBT helps adolescents identify and restructure maladaptive thoughts associated with gambling and aggression, while Modelling Therapy provides opportunities for observing and imitating non-aggressive responses. Integrating these therapies into school-based counselling programmes can therefore mitigate the psychological and social consequences of gambling-induced aggression.

1.1 Statement of the Problem

The rise of online gambling among students has become a growing concern, with potential consequences for their academic performance and has also raised concerns about its potential impacts on their overall well-being. Many students are increasingly exposed to gambling platforms through the social media and digital advertisements leading to habits that could interfere with their focus, study habits, study routines, and overall academic achievements. The addictive nature of online gambling may also contribute to time management, financial difficulties, and emotional stress, further impacting their educational outcomes. Despite its growing prevalence, there is limited research exploring how students perceive this influence, creating a gap in understanding the extend of the problem and its implications on education. This study seeks to investigate the perceived influence of online gambling on students' academic performance to provide insights

for educators, policymakers, and stakeholders in the education sector.

1.2 Research Hypotheses

The following research hypotheses were tested in the study:

- Aggression will not significantly differ among in-school adolescent who gamble that are exposed to modelling therapy, cognitive behaviour therapy and control group.
- There will be no significant interaction between treatment type and apartment type on aggression among in-school adolescents who gamble.
- There will be no significant gender difference in aggression among in-school adolescents who gamble across experimental groups based on gender.

2. Research Methodology

2.1 Research Design

The research design adopted for the study was a descriptive survey research design. This was chosen because it involves using structured questionnaire in the researcher variable of interest as it investigated the effectiveness of modelling therapy and cognitive behaviour therapy on aggression among in-school adolescents who gamble in Lagos metropolis.

2.2 Population

The population of the study comprised of all senior secondary school 2 students in Education District II of Lagos state.

3. Results

Hypothesis 1: Aggression will not significantly differ among in-school adolescent who gamble that are exposed to modelling therapy, cognitive behaviour therapy and control group.

Table 1: Descriptive Analysis of Aggression among gambling in-school adolescent across the Experimental Groups

Experimental Groups	N	Pre-test Mean	Pre-test Std. Dev.	Post-test Mean	Post-test Std. Dev.	Mean Difference
Modelling Therapy	30	61.87	10.25	54.67	4.69	-7.20
Cognitive Behaviour Therapy	32	65.97	7.30	56.06	4.86	-9.91
Control Group	35	60.69	6.16	60.14	6.01	-0.54
Total	97	62.79	8.23	57.10	5.71	-5.69

Table 1 summarizes the pre-test mean aggression scores: Modelling Therapy (61.87), Cognitive Behaviour Therapy (65.97), and Control (60.69). Post-test results showed reductions across groups, with mean scores of 54.67, 56.05, and 60.14, respectively. Cognitive Behaviour Therapy produced the largest decrease (-9.91), followed by Modelling Therapy (-7.20), while the Control group showed minimal change (-0.54). ANCOVA was used to test the differences and the result is presented in Table 2.

2.3 Sampling and Sampling Technique

The sample for this study comprised 250 students from three randomly selected secondary schools in Education District II. The sampling techniques employed in the selection of participants were the stratified, and simple random techniques respectively.

2.4 Instruments

The instruments for data collection were the Gambling Related Cognition Scale, (GRCS) and Verbal Aggressiveness Scale (VAS). GRCS is a 23-item questionnaire. The items were adopted with a 4-point Likert scale method. This includes, Strongly Agreed=SA, Agree=A, Disagree=D., Strongly Disagree=D. and Verbal Aggressiveness Scale (VAS), was also adopted to collect data on the students' verbal aggressiveness as a personality trait which reflects their individual's tendency to attack others self-concept rather than, addressing their position during communication with a 5-point: Likert scale.

2.5 Data Collection

The researcher first visited the schools to become acquainted. Later, the researcher, accompanied by a research assistance, returned to administer the research instruments to the students. The data was thus collected for analysis.

2.5 Data Analysis

Data collected was analysed using mean, standard deviation, and analysis of covariance (ANCOVA).

Table 2: ANCOVA for Aggression among in-school adolescent who gamble across the Experimental Groups

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	652.03	3	217.34	8.14	0.000
Intercept	3473.33	1	3473.33	130.10	0.000
Covariate	115.89	1	115.89	4.34	0.040
Groups	601.83	2	300.91	11.27	0.000
Error	2482.94	93	26.70		
Total	319429.00	97			
Corrected Total	3134.97	96			

Table 2, shows a significant group effect on adolescents’ gambling-related aggression, $F(2, 93) = 11.27, p < .005$, at 0.05 level of significance. Mean scores differed significantly across treatments, leading to rejection of the null hypothesis. Post-hoc results identifying specific group differences are presented in Table 3.

Table 3: Post-Hoc Analysis of Aggression among gambling in-school adolescent across the Experimental Groups

(I) Experimental Groups	(J) Experimental Groups	Mean Difference (I-J)	Sig. ^a
Modelling Therapy	Cognitive Behaviour Therapy	-0.83	0.540
	Control Group	-5.64*	0.000
Cognitive Behaviour Therapy	Modelling Therapy	0.83	0.540
	Control Group	-4.82*	0.000
Control Group	Modelling Therapy	5.64*	0.000
	Cognitive Behaviour Therapy	4.82*	0.000

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*. The mean difference is significant at the .05 level.

The post-hoc analysis revealed that the differences between the Control group and both the Modelling Therapy ($t = 5.64, p < .05$) and Cognitive Behaviour Therapy ($t = 4.82, p < .05$) groups were statistically significant.

Hypothesis Two: There will be no significant interaction between treatment type and apartment type on aggression among in-school adolescents who gamble.

Table 4

Descriptive Analysis of Treatment Types and Type of Apartment among in-school adolescent who gambling across the Experimental Groups

Experimental Groups	Type of Apartment	of N	Pre-test Mean	Pre-test Std. Dev.	Post-test Mean	Post-test Std. Dev.	Mean Difference
Modelling Therapy	Private	13	64.54	11.29	56.08	5.82	-8.46
	Public	17	59.82	9.20	53.59	3.41	-6.24
	Total	30	61.87	10.25	54.67	4.69	-7.20
Cognitive Behaviour Therapy	Private	13	64.77	7.76	55.23	5.69	-9.54
	Public	19	66.79	7.07	56.63	4.27	-10.16
	Total	32	65.97	7.30	56.06	4.86	-9.91
Control Group	Private	19	61.21	5.69	59.42	5.78	-1.79
	Public	16	60.06	6.82	61.00	6.36	0.94
	Total	35	60.69	6.16	60.14	6.01	-0.54
Total	Private	45	63.20	8.21	57.24	5.95	-5.96
	Public	52	62.44	8.30	56.98	5.56	-5.46
	Total	97	62.79	8.23	57.10	5.71	-5.69

Table 4 presents pre-test aggression scores by apartment type. Adolescents living in private apartments scored 64.54 (Modelling Therapy), 64.77 (Cognitive Behaviour Therapy), and 61.21 (Control), while their public apartment counterparts scored 59.82, 66.79, and 60.06, respectively. At post-test, private apartment participants recorded 56.08,

55.23, and 59.42, whereas public apartment participants scored 53.59, 56.63, and 61, respectively. The mean reductions indicate that adolescents in Cognitive Behaviour Therapy experienced greater decreases in aggression (private: -9.54; public: -10.16) compared to those in Modelling Therapy (private: -8.64; public: -6.24). ANCOVA was conducted to assess the significance of these differences, with results shown in Table 5.

Table 5: ANCOVA of Treatment Type and Type of Apartment (ToA) for in-school adolescent who gamble across the Experimental Groups

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	713.42	6	118.90	4.42	0.001
Intercept	3452.97	1	3452.97	128.33	0.000
Covariate	94.85	1	94.85	3.53	0.064
Groups	593.21	2	296.60	11.02	0.000
ToA	2.52	1	2.52	0.09	0.760
Groups * ToA	56.95	2	28.47	1.06	0.351
Error	2421.55	90	26.91		
Total	319429.00	97			
Corrected Total	3134.97	96			

Table 5 shows that the interaction effect of treatment type and apartment type on aggression scores was not significant, $F(2, 90) = 0.35127$, $p > .05$, at the 0.05 level. Therefore, the null hypothesis was retained, indicating no significant interaction between experimental conditions and type of apartment among in-school adolescents who gamble.

Hypothesis Three: There will be no significant gender difference in aggression among in-school adolescents who gamble across experimental groups based on gender.

Table 6: ANCOVA of Treatment Type and Gender for in-school adolescent who gamble across the Experimental Groups

Experimental Groups	Gender of Participants	N	Pre-test Mean	Pre-test Std. Dev.	Post-test Mean	Post-test Std. Dev.	Mean Difference
Modelling Therapy	Male	26	62.96	10.47	54.96	4.85	-8.00
	Female	4	54.75	4.99	52.75	3.40	-2.00
	Total	30	61.87	10.25	54.67	4.69	-7.20
Cognitive Behaviour Therapy	Male	19	67.95	6.74	57.16	5.57	-10.79
	Female	13	63.08	7.38	54.46	3.13	-8.62
	Total	32	65.97	7.30	56.06	4.86	-9.91
Control Group	Male	18	59.89	6.01	60.83	5.72	0.94
	Female	17	61.53	6.39	59.41	6.39	-2.12
	Total	35	60.69	6.16	60.14	6.01	-0.54
Total	Male	63	63.59	8.79	57.30	5.78	-6.29
	Female	34	61.32	6.95	56.74	5.66	-4.59
	Total	97	62.79	8.23	57.10	5.71	-5.69

Table 6 presents the analysis of aggression based on gender. During the pre-test phase, male adolescents scored 62.96 in Modelling Therapy, 67.95 in Cognitive Behaviour Therapy, and 59.89 in the Control group. Their female counterparts scored 54.75, 63.08, and 61.53, respectively. At post-test, male adolescents recorded scores of 54.96, 57.16, and 60.83, while female adolescents scored 52.75, 54.46, and 59.41, respectively. The mean reductions show that adolescents undergoing Cognitive Behaviour Therapy experienced larger decreases in aggression (male: -10.79; female: -8.62) than those in Modelling Therapy (male: -8; female: -2). An ANCOVA was performed to determine the significance of these differences, with the findings presented in Table 7.

Table 7: ANCOVA of Treatment Type and Gender for in-school adolescent who gamble across the Experimental Groups

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	712.49	6	118.75	4.41	0.001
Intercept	3419.26	1	3419.26	127.03	0.000
Covariate	85.60	1	85.60	3.18	0.078
Groups	547.70	2	273.85	10.17	0.000
Gender	43.34	1	43.34	1.61	0.208
Groups * Gender	2.11	2	1.05	0.04	0.962
Error	2422.48	90	26.92		
Total	319429.00	97			
Corrected Total	3134.97	96			

Table 7 shows that the effect of the experimental conditions and gender on aggression scores was not significant, $F(2, 90) = 0.962, p > .05$, at 0.05 level of significance. Therefore, the null hypothesis was retained, indicating no significant difference in aggression scores among in-school adolescents who gamble across experimental groups based on gender.

4. Discussion of Findings

Hypothesis One: Aggression scores will not significantly differ among in-school adolescents who gamble and are exposed to Modelling Therapy, Cognitive Behaviour Therapy, and the Control group.

The hypothesis was rejected, as results ($F(2,93) = 11.27, p < .05$) showed significant differences in aggression across groups. Both Cognitive Behaviour Therapy (CBT) and Modelling Therapy (MT) effectively reduced aggression compared to the control group.

The CBT group showed the greatest reduction (mean = -9.91), followed by MT (-7.20), while the control showed little change (-0.54). Post-hoc tests indicated significant differences between treatment and control groups, but not between CBT and MT.

CBT proved slightly more effective due to its focus on cognitive restructuring and self-control, helping adolescents replace irrational, aggressive thoughts (Beck, 2011). MT was effective as well, enabling learners to adopt non-aggressive behaviours through observation and imitation of positive models (Bandura, 1977).

These findings agree with Ede & Ugwuegbulam (2023), Chukwu & Nwankwo (2022), and Adewusi & Alao (2020), who found that cognitive and modelling approaches reduce aggression and improve self-regulation among adolescents. The rejection of the null hypothesis confirms that CBT and MT are effective in reducing aggression among gambling adolescents, supporting Cognitive and Social Learning Theories.

Hypothesis Two: There will be no significant interaction between treatment type and apartment type on aggression among in-school adolescents who gamble.

The hypothesis was retained, as shown in Table 5. The interaction between treatment type and apartment type on aggression was not significant, $F(2,90) = 1.06, p > .05$. This indicates that the effectiveness of Cognitive Behaviour Therapy (CBT) and Modelling Therapy (MT) in reducing aggression was not influenced by housing type (private or public).

Although slight mean differences were observed—public apartment adolescents under CBT showing slightly greater reduction (-10.16) than those in private apartments (-9.54)—these were statistically insignificant. Thus, both therapies are universally effective, irrespective of living conditions.

This finding supports Omotosho & Ijeoma (2021) and Adebayo (2020), who found that environmental factors did not significantly moderate therapeutic outcomes among adolescents. It implies that psychological interventions remain effective across diverse socio-environmental contexts, with success determined more by the therapy content than by the living environment.

Hypothesis Three: There will be no significant gender difference in aggression scores among in-school adolescents who gamble across the experimental groups.

The hypothesis was retained, as ANCOVA results in Table 7 showed no significant interaction between treatment type and gender on aggression, $F(2,90) = 0.962, p > .05$. This means both male and female adolescents benefitted equally from Cognitive Behaviour Therapy (CBT) and Modelling Therapy (MT).

Although males initially showed higher aggression and slightly greater post-intervention reductions, the differences were not statistically significant. This suggests that both genders respond similarly to

behavioural interventions targeting gambling-related aggression.

The finding aligns with Adebayo & Musa (2020) and Okafor & Bello (2022), who reported that gender does not significantly influence outcomes of psychological therapies for aggression or risk behaviours. Thus, CBT and MT are gender-inclusive and can be effectively applied in mixed-gender settings.

5. Conclusion

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

- Cognitive Behaviour Therapy (CBT) and Modelling Therapy (MT) were both effective in reducing aggression among in-school adolescents who gamble, compared to those in the control group.
- Cognitive Behaviour Therapy produced the greatest improvement, suggesting that cognitive restructuring and behaviour modification have a stronger impact on regulating aggression linked to gambling tendencies.
- The type of apartment (living environment) did not significantly influence treatment outcomes, indicating that therapeutic benefits are consistent across socio-environmental conditions.
- Gender did not significantly affect the intervention outcomes, implying that both male and female adolescents respond similarly to CBT and Modelling Therapy in managing aggression.
- Overall, the study underscores that structured psychotherapeutic interventions can effectively reduce aggressive behaviours among adolescents who engage in gambling activities.

6. Recommendations

Based on the findings and conclusions, the following recommendations are made:

- School Counsellors and Psychologists should integrate Cognitive Behaviour Therapy and Modelling Therapy into school-based intervention programs aimed at curbing aggression and other maladaptive behaviours associated with adolescent gambling.
- Teachers and school administrators should be trained in basic principles of CBT and modelling techniques to help identify and address early signs of aggression among students.
- Government and education stakeholders should provide funding and policy support for the inclusion of psychological interventions within school counselling curricula, especially for high-risk students involved in gambling activities.
- Parents and guardians should collaborate with school counsellors to reinforce positive behavioural models at home, ensuring continuity of therapeutic gains outside the school environment.
- Future researchers should explore other moderating factors such as socio-economic status, peer influence, or

family structure that may affect the effectiveness of CBT and Modelling Therapy on aggression and related psychological challenges.

- Since gender and apartment type did not significantly affect therapy outcomes, interventions should focus more on universal prevention and treatment models rather than gender- or environment-specific programs.

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Perceived Relationship between the Use of Psychological Aids and Athletic Performance of University of Benin Student Athletes

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Abstract. Psychological aids play a crucial role in enhancing athletic performance by improving focus, motivation, stress management, and overall mental preparedness. This study examines the influence of psychological aids on the perceived performance of Nigerian University Games Association (NUGA) athletes at the University of Benin. The research focuses on psychological techniques such as mental imagery, self-talk, relaxation exercises, and goal setting, assessing their impact on student-athletes' performance. A descriptive survey research design was adopted for this study, with a total population of 268 NUGA athletes. Using a simple random sampling technique, 137 student-athletes were selected. A self-structured questionnaire, validated by experts in Human Kinetics and Sports Science, served as the primary data collection instrument. The reliability of the instrument was established using test for internal consistency, yielding a cronbach alpha value of 0.81. Data were analyzed using descriptive statistics (frequency counts, percentages, mean, standard deviation) and inferential statistics (Pearson correlation). Findings from the research indicate that student-athletes possess a high level of awareness of psychological aids, and their application significantly enhances sports performance. Techniques such as mental imagery, relaxation exercises, and self-talk were found to improve focus, reduce anxiety, and boost confidence. However, challenges such as limited access to sports psychologists and inadequate training on mental skills were identified as barriers to optimal utilization. The study recommends the integration of psychological training into sports programs, increased awareness campaigns, and the provision of professional psychological support to athletes. These interventions will contribute to enhanced athletic performance, mental resilience, and overall sports success among university athletes.

Keywords: Perceived Relationship, Psychological Aids, Athletic Performance.

1. Introduction

Athletic success is often measured by the extent of an athlete's involvement in sports, where their physical, physiological, strategic, technical, and mental abilities play a significant role in overall performance across most disciplines (Bangsbo, 2015). According to Bangsbo, 2015, in movement-oriented sports, competitors need to demonstrate a combination of fitness, agility, strength, and speed. However, psychological factors are frequently neglected by athletes, coaches, and trainers (Adegbesan, Olowoloni, Abu & Ayodele, 2019). The Nigerian University Games Association (NUGA) was founded in 1965. It is a biennial games where all Nigerian university students come together for sporting activities. University of Benin student athletes have been performing very well in these games. A comprehensive understanding of sports requires the application of exercise science principles, as well as the optimization of training regimens and nutritional intake (Perez-Gomez, Thomassen, Nordsborg, Hellsten & Bangsbo, 2011). As Handelsman (2016) noted, athletes continually assess their progress in sports, aiming for excellence. Hence, setting appropriate goals and maintaining a consistent mindset during training and competition are keys to achieving these objectives. When athletes and coaches accurately define goals and identify areas for improvement, performance is enhanced (Olowoloni & Ayodele, 2021).

According to Olowoloni and Ayodele (2021), various factors, such as physical fatigue, personal circumstances, and professional or educational pressures, influence an athlete's focus and mental sharpness during competition. Psychological interventions involve consistent practice of mental skills to increase enjoyment, improve athletic and physical capabilities, and promote self-satisfaction. These interventions have shown a positive impact on athletes' mental health and competitive outcomes, leading to their widespread adoption (Gross, Moore, Gardner,

Wolanin, Pess & Marks, 2018). Although psychological skills may not directly enhance athletic performance, when combined with physical, technical, and tactical training, they contribute to improved results. Thus, factors like motivation, concentration, stress management, and emotional control are integral to understanding variations in athletic performance (Swann, Crust, Jackman, Vella, Allen & Keegan, 2017). Additionally, techniques such as hypnosis, visualization, music, relaxation exercises, yoga, and other psychological tools have been shown to boost performance in both training and competitions (Swann et.al.). The psychological demands athletes face differ depending on the team, age group, gender, competition level, and type of sport (Elbe, 2009). Younger athletes, especially those competing at intermediate levels, often require encouragement to stay committed to their sport, particularly during training and competition. Therefore, fostering psychological development in young athletes is crucial for their success and equips them with vital psychological skills such as self-confidence, emotional regulation, motivation, and recovery techniques. These techniques, including hypnosis, visualization, encouragement, and relaxation methods, are essential for goal achievement and satisfaction in sports (Brière, Yale-Soulière, Gonzalez-Sicilia, Harbec, Morizot, Janosz et al, 2018).

Olowoleni and Ayodele (2020) found that goal-setting is a widely used technique in sports psychology that plays a key role in optimizing performance through mental training. It forms the foundation of psychological learning for athletes and coaches and underpins various methods like confidence-building and motivation. Setting specific, challenging goals results in greater achievement than more general objectives (Bandura, 2013). Goals are known to drive performance by motivating individuals; helping them transit from aspirations to accomplished targets. Mental imagery, or rehearsal, is the vivid mental representation of situations and skills without physically being present. Olowoleni and Ayodele (2020) described it as a simulated experience that engages multiple senses, allowing athletes to mentally visualize scenarios that feel real (Cox, 2012). Imagery involves all five senses—sight, touch, sound, taste, and smell—and is used in sports to reduce anxiety, enhance concentration, and improve self-determination (Parnabas, Parnabas & Parnabas, 2015). This technique helps athletes form mental images of desired outcomes, fostering a state of flow and better preparation for competition. Imagery also sustains goal visualization, contributing to enhanced motor skills and overall performance (Olowoleni & Ayodele, 2020; Di Corrado, Guarnera, Vitali, Quartiroli & Coco, 2019). The mental self-regulation of athletes, including factors like focus and stress control, plays a significant role in their performance, with experience and maturity being key to mastering these elements (Adegbesan et al, 2019). Regardless of skill level, performance anxiety can arise due to an athlete's inability to manage stress during competition (Takayuki & Hiroshi, 2015).

Intrinsic motivation is crucial for success in both training and competition, helping reduce anxiety (Olowoleni & Ayodele, 2021). Therefore, it is necessary to implement strategies that address psychological influences on sports performance, including stress, anxiety, tension, and aggression, through psychological aids such as hypnosis, imagery, and relaxation techniques, which this study aims to explore.

1.1 Statement of the Problem

Athletes, coaches, and trainers often overlook the psychological aspects of performance (Adegbesan, Olowoleni, Abu, & Ayodele, 2019), placing too much focus on pure physical skills, which may lead to suboptimal results. However, a combination of both skill and psychological factors is crucial for optimal athletic performance. Despite the long-recognized importance of sports psychology, many coaches ignore its potential to improve team performance (Adegbesan et.al.). In Nigeria, many coaches focus on physical training while neglecting the psychological aspects (Olowoleni & Ayodele, 2020). While sports psychologists have specialized training, coaches can also utilize psychological principles to work with athletes and teams effectively (Ravizza, 2008). Athletes who are anxious or emotionally vulnerable are more likely to underperform under pressure, which can affect their ability to recover from mistakes and setbacks (Kaplanova, 2020). Anxiety causes distressing thoughts and affects focus, leading to performance issues. Athletes who experience anxiety can benefit from mental strategies like hypnosis, visualization, positive self-talk, and music, but many fail to recognize or use these tools for performance enhancement. This study aims to examine how these aids will help University of Benin athletes overcome the challenges they face in striving for athletic success.

1.2 Research Question

The following research question will guide this study:

- What is the perceived relationship between the use of psychological aids and athletic performance?

1.3 Hypothesis

The following hypothesis was formulated and tested at a 0.05 significance level:

H₀: There is no significant relationship between the use of psychological aids in sports and athletic performance.

2. Research Methodology

2.1 Research Design

The descriptive survey design was used in carrying out this study. This design typically employs questionnaires to determine the opinions, attitudes, preference and perception of person of interest to the study.

Population of the Study
The population for this study is of 268 student athletes who train daily using the University of Benin Sports

Complex Facilities/Equipment. The distribution of the student athletes is shown in the table that follows:

Table 1: Shows Population of Student Athletes by Departments

S/N	Faculties	Population of Student Athletes
1.	Agriculture	16
2.	Arts	17
3.	Basic Medical Sciences	18
4.	Dentistry	2
5.	Education	81
6.	Engineering	28
7.	Environmental Sciences	2
8.	Law	6
9.	Life Sciences	19
10.	Management Sciences	18
11.	College of Medicine	15
12.	Pharmacy	2
13.	Physical Sciences	29
14.	Social Sciences	15
Total		268

Source: Office of the Director of Sports, University of Benin Sports Centre (2024).

2.2 Sample and Sampling Technique

The sample size was 137 student athletes. This was obtained using simple random sampling techniques to select 50 percent from each faculty that made up the population. The distribution of the sampled respondents is shown in the table that follows:

Table 2: Shows Sampling of Student Athletes by Departments.

S/N	Faculties	Population of Student Athletes	Sample size
1.	Agriculture	16	8
2.	Arts	17	9
3.	Basic Medical Sciences	18	9
4.	Dentistry	2	1
5.	Education	81	41
6.	Engineering	28	14
7.	Environmental Sciences	2	1
8.	Law	6	3
9.	Life Sciences	19	10
10.	Management Sciences	18	9
11.	College of Medicine	15	8
12.	Pharmacy	2	1
13.	Physical Sciences	29	15
14.	Social Sciences	15	8
Total		268	137

2.3 Research Instrument

A self-developed, structured and validated questionnaire was used to generate the desired information regarding the influence of psychological aids on perceived sports performance (IPAPSP) of student athletes. The questionnaire was used to formulate statements from the variables of the study under the modified Likert scale response options of: Strongly Agreed (SA), Agreed (A), Disagreed (D) and Strongly Disagreed (SD).

2.4 Method of Data Collection

The questionnaire was distributed to the respondents (student-athletes) and retrieved on the spot to avoid loss.

2.5 Method of Data Analysis

The data collected from the respondents through the questionnaire forms was analyzed using mean and standard deviation. Thereafter, inferential statistics of Pearson correlation was used in testing the hypothesis corresponding to the research question

3. Results and Discussion

Research Question: What is the perceived relationship between the use of psychological aids and athletic performance?

Table 3: Mean and standard deviation of responses on the use of psychological aids in sports and good sports performance

S/N	Items	Mean	SD	Remark
	I believe there is a direct link between using psychological aids and improved performance.	3.21	0.461	Agree
	I perform better in competitions when I use psychological aids.	3.49	0.516	Agree
	I have noticed a difference in my performance when I apply psychological aids compared to when I do not.	3.30	0.611	Agree
	Athletes who use psychological aids generally outperform those who do not, based on my experience.	3.26	0.622	Agree
	I would recommend the use of psychological aids to other athletes aiming for better performance.	3.38	0.643	Agree

Table 3 showed that the mean values range from 3.21 to 3.49, while the standard deviation values range from 0.461 to 0.643. The mean values show that the athletes agree to all five items regarding relationship between use of psychological aids in sports and sports performance, which is also indicated in the average mean of 3.33. The low values of the standard deviation show that their responses do not deviate far from one another.

Hypothesis 1: There is no significant relationship between the use of psychological aids in sports and sports performance.

Table 4: Pearson statistics on use of psychological aids in sports and sports performance.

Variables	N	Mean	SD	r-value	p-value	Decision
psychological aids	137	16.20	1.94			
sports performance	137	16.64	1.54	.524	0.000	Ho is rejected

The data in Table 4 revealed an r-value of 0.524, indicating a moderate positive correlation between the use of psychological aids and sports performance. The p-value of 0.000, which is below the 0.05 significance level, suggests the rejection of the null hypothesis, which claims no significant relationship between the use of psychological aids and sports performance. Therefore, there is a significant link between the use of psychological aids in sports and performance outcomes.

4. Discussion of Findings

The research question and the corresponding hypothesis testing showed a significant relationship between the use of psychological aids and sports performance. This supports Martin's (2008) argument that elite athletes may initially resist psychological methods, believing they are only for those with psychological issues, but earlier research suggests that adhering to psychological principles is essential for optimal performance.

Physical performance in sports is not solely determined by an athlete's physiological state; psychological factors also play a critical role. These factors, including attention, concentration, motivation, emotions, stress, and other cognitive variables, significantly affect and enhance performance.

This also aligns more with Adeleke, Kehinde and Afolabi's (2013) observation that the coaches were familiar with psychological principles that can help the student athletes to do well in their sports (performance). Cross et al. (2018), noted the widespread use of psychological intervention (aids) due to their positive

impact on athletes will greatly help athletic performance.

5. Conclusion

The study concluded that student-athletes generally possess a high understanding of psychological aids, leading to widespread use. The advantages of these aids significantly contribute to improved performance, demonstrating a clear relationship between the use of psychological aids and enhanced athletic outcomes.

6. Recommendations

Based on the study's findings, the following recommendations are made:

- Organize regular seminars and workshops to emphasize the importance of psychological aids in sports, aiming to enhance the knowledge of athletes and coaches.
- Coaches should actively encourage athletes to integrate psychological aids into their training to optimize performance.
- Given the strong correlation between the use of psychological aids and sports success, student-athletes should consistently adopt these techniques.

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The Psychological Toll of Child Marriage on Southwest Nigerian Women and Girls: A Case for Trauma-Informed Interventions

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Abstract. This study investigates the psychological impact of child marriage on Nigerian women and girls, highlighting the need for trauma-informed interventions. A mixed-methods approach was employed. The population consisted of Nigerian women and girls aged 18-35 who were married before the age of 18. A sample of 300 participants were selected using a combination of purposive and snowball sampling techniques. A standardized trauma questionnaire (e.g., Harvard Trauma Questionnaire) and a semi-structured interview guide were used to collect data. The instruments were validated through expert review and pilot testing, and reliability were ensured through Cronbach's alpha coefficient (>0.7). Result in hypothesis one revealed that there is a statistically significant difference in the psychological well-being of Southwest Nigerian women and girls who received trauma-informed interventions and those who did not. Results in hypothesis two revealed that education significantly influence the psychological impact of child marriage on Southwest Nigerian women and girls $\{F(3, 296) = 4.52, P = 0.0004\}$. Results in hypothesis three revealed that there is a significant positive correlation between the duration of child marriage and the level of trauma symptoms experienced by Southwest Nigerian women and girls ($r = 0.42, p = 0.001$). The study concluded that education level significantly influenced the psychological impact of child marriage, and longer durations of child marriage are associated with higher trauma symptoms among Southwest Nigerian women and girls. The study recommended the implementation of trauma-informed interventions and the promotion of girls' education to mitigate the psychological effects of child marriage and reduce its prevalence.

Keywords: Child marriage, trauma, psychological impact, Nigerian women and girls, trauma-informed interventions.

1. Background to the Study

Child marriage is a significant problem in Nigeria, with approximately 44% of girls married before the age of 18, and 12% married before 15, affecting their physical, emotional, and psychological well-being (UNICEF, 2020). The practice is linked to various negative outcomes, including increased risk of maternal mortality, domestic violence, and poor educational attainment. In fact, child marriage decreases a girl's likelihood of completing secondary education by 23%, resulting in lower earning potential and perpetuating cycles of poverty. Nigeria ranks third in child marriage prevalence, with the northern regions being disproportionately affected (Childlight, 2025; UNICEF, 2024). Despite efforts to address this issue, progress has been slow, with recent data suggesting a decline to 30% national prevalence. The practice is more prevalent in rural areas and among girls with little or no education. Efforts to end child marriage, such as the National Dialogue on Ending Child Marriage, aim to eliminate the practice by 2030, but more work is needed to achieve this goal (UNICEF, 2024; Africa Check, 2025).

Recent studies have documented the devastating effects of child marriage on girls' education, health, and socio-economic outcomes (Adepoju, 2020; Efobi et al., 2019). Child marriage is associated with increased risk of domestic violence. In Nigeria, women who married early are more likely to experience Intimate Partner Violence (IPV), with prevalence rate ranging from 30-78.8% across different regions. A study in Abeokuta, Southwest Nigeria, found that 1 in 3 women has experienced physical or sexual violence from an intimate partner. The risk factors include low education levels, economic dependence, and societal norms that perpetuate gender-based violence (Olatunde, 2025;

Itele Media, 2025; Javier, 2025). Child marriage is strongly linked to increased early pregnancy in Nigeria, with girls married before 18 more likely to experience early childbearing. Approximately 44% of Nigerian women aged 20-24 were married before age 18, contributing to high adolescent pregnancy rates (17%). Early marriage often leads to early sexual debut, limited reproductive autonomy, and increased risk of complications during pregnancy and childbirth. In Northern Nigeria, 48% of girls give birth by age 18, highlighting the need for targeted interventions (Kolawole, Adebayo, & Oladeji, 2022; NPC & ICF, 2019; UNICEF, 2020). Child marriage is a significant contributor to maternal mortality in Nigeria. Girls married before 18 and are more likely to experience pregnancy-related complications, with the country accounting for 14% of global deaths (WHO, 2019). In Nigeria, the maternal mortality ratio is 814 deaths per 100,000 live births, with adolescent girls (15-19) at higher risk (NDHS, 2018). Early marriage often leads to early pregnancy, limited access to healthcare, and increased risk of obstetric complications (Kolawole et al., 2022).

However, research on the psychological impact of child marriage is limited, particularly in the Nigerian context. Child marriage is a significant predictor of mental health issues among adolescent girls in Nigeria. Research suggests that girls married before 18 are more likely to experience trauma, anxiety, depression, and Post-Traumatic Stress Disorder (PTSD) due to early sexual debut, domestic violence, and social isolation (Adepoju, 2020). Studies have shown a strong correlation between child-marriage and mental health outcomes. In Nigeria study, 62.5% of married adolescent girls exhibited symptoms of depression, while 43.8% showed signs of anxiety (Aggarwal, Francis, Dashti & Patton, 2022). Another study found that girls married before 16 were 3.5 times more likely to experience PTSD symptoms (Adepoju, 2020).

The trauma associated with child marriage can have long-lasting effects on mental health. Girls who experience early marriage often face social isolation, limited autonomy, and increased domestic responsibilities, contributing to feelings of hopelessness and despair (Kolawole et al., 2022). These experiences can disrupt educational and economic opportunities, perpetuating cycles of poverty and poor mental health. A study in Bangladesh found that girls married before 18 were more likely to experience depression and anxiety (Amin, Ahmed, & Saha, 2018). In Nigeria, research on trauma and mental health is scarce, with few studies focusing on child marriage specifically (Lasebikan, Owoaje, &

Asokan, 2019). Addressing the health needs of child brides requires a multifaceted approach. Interventions should focus on providing psychosocial support, education, and economic empowerment to vulnerable girls and women (Aggarwal, Francis, Dashti & Patton, 2022). Strengthening laws and policies to prevent child marriage is also crucial to protecting girls' mental health and well-being.

The Trauma Theory framework provides a valuable lens for understanding the impact of child marriage on individuals. According to Herman (2015), traumatic experiences like child marriage can disrupt a person's sense of safety, trust, and self-worth, leading to long-lasting psychological and emotional consequences. In the context of child marriage, Trauma Theory suggests that girls may experience complex trauma, resulting from prolonged exposure to stress, abuse, and exploitation (Herman, 2015). Recent studies have applied Trauma Theory to understand the mental health outcomes of child marriage. For example, research in Nigeria found that girls who experienced child marriage exhibited symptoms of complex trauma, including anxiety, depression, and PTSD (Adepoju, 2020). These findings support the Trauma Theory framework, highlighting the need for trauma-informed interventions to address the psychological and emotional needs of child brides.

1.1 Problem Statement

Child marriage is a pervasive issue in Nigeria, with approximately 43% of girls married before the age of 18 (UNICEF, 2020). This practice exposes young girls to increased risk of physical, emotional, and psychological abuse, leading to long-term trauma and mental health consequences. Despite the prevalence of child marriage, there is a dearth of research on the psychological toll of this practice on Nigerian women and girls. Existing studies focus primarily on the socio-economic and health implications, neglecting the critical aspect of trauma and mental well-being. The lack of trauma-informed interventions exacerbates the vulnerability of these individuals, perpetuating cycles of violence and psychological distress.

Despite the extensive research on child marriage in Nigeria, a significant gap remains in understanding its psychological impact. Studies have focused on prevalence, causes, and health consequences (Kolawole et al., 2022; NPC & ICF, 2018), but few have explored the lived experiences and mental health outcomes of child brides (Adepoju, 2020). This gap highlights the need for qualitative research to capture the voices and stories of survivors, informing targeted

interventions and policy reforms. This study aims to investigate the psychological impact of child marriage on Nigerian women and girls, highlighting the urgent need for targeted interventions to address trauma and promote mental health.

1.2 Hypotheses

- There is no significant difference in the psychological well-being of Southwest Nigerian women and girls who received trauma-informed interventions and those who did not
- Education level does not significantly influence the psychological impact of child marriage on Southwest Nigerian women and girls
- There is no significant correlation between the duration of child marriage and the level of trauma symptoms experienced by Southwest Nigerian women and girls.

2. Research Methodology

This study employed a cross-sectional survey design to examine the psychological impact of child marriage on Southwest Nigerian women and girls, focusing on

the role of education and duration of marriage. The population comprised women and girls in Southwest Nigeria who experienced child marriage. 300 participants were selected for the study using stratified random sampling to ensure representation across age groups, education levels, and regions within Southwest Nigeria.

The instruments used include Trauma Symptom Checklist (TSC) and a validated 35-item scale assessing trauma symptoms ($\alpha = 0.89$). Demographic/Education Questionnaire was used to collect data on age, education level, duration of child marriage. The instruments were validated for Nigerian context through expert review and pilot testing ($n=30$, $\alpha > 0.80$). TSC showed high internal consistency ($\alpha = 0.89$).

Data were collected through face-to-face interviews using structured questionnaires; trained female enumerators conducted interviews in local languages; and informed consent and ethical approvals were obtained. Data collected were analyzed using descriptive stats to summarize participant characteristics; ANOVA to test education level impact on psychological well-being; and Pearson Correlation to examine duration of marriage vs. trauma symptoms.

3. Results

Table 1: Demographic Profile of Participants (Women and Girls)

Characteristics	Category	Frequency	Percentage (%)
Age Group	15-19 years (Girls)	60	20.0
	20-24 years (Women)	80	26.7
	25-29 years (Women)	70	23.3
	30-34 years (Women)	50	16.7
	35+ years (Women)	40	13.3
Education Level	No Formal Education	90	30.0
	Primary Education	80	26.7
	Secondary Education	70	23.3
	Tertiary Education	60	20.0
States (SW Nigeria)	Lagos	50	16.7
	Oyo	50	16.7
	Osun	50	16.7

	Ogun	50	16.7
	Ondo	50	16.7
	Ekiti	50	16.7
Participant Type	Girls (15-19)	60	20.0
	Women (20+)	240	80.0

Hypothesis One: There is no significant difference in the psychological well-being of Southwest Nigerian women and girls who received trauma-informed interventions and those who did not

Table 2: Means, Standard Deviation and t-value of women and girls who received trauma-informed interventions and those who did not

Groups	NO	Mean	SD	Df	Cal t-value	Critical t-value
Intervention	150	65.2	10.5			
Non-Intervention	150	52.1	12.3	298	3.21	1.97

Given that the calculated t-statistic (3.21) is greater than the critical t-value (1.97), we reject the null hypothesis and conclude that there is a significant difference in psychological well-being between women and girls who received trauma-informed interventions and those who did not.

Hypothesis Two: Education do not significantly influence the psychological impact of child marriage on Nigerian women and girls

Table 3: Summary Table of Analysis of Variance of the Influence of Education on Psychological Impact of Child Marriage on Women and Girls

Source of Variance	Sum of Squares	Degree of Freedom	Mean Squares	Calculated F-ratio	Critical F-ratio
Between Groups	1250.21	3	416.74	4.52	2.60
Within Groups	27180.50	296	92.16		
Total	28530.71	299			

The ANOVA results in Table 3 indicated that education level significantly influenced the psychological impact of child marriage on Southwest Nigerian women and girls, $\{F(3, 296) = 4.52, P = 0.0004\}$. The calculated F-ratio (4.52) exceeds the critical F-ratio (2.60), suggesting that differences in psychological impact exist across education levels.

Hypothesis Three: There is no significant correlation between the duration of child marriage and the level of trauma symptoms experienced by Nigerian women and girls.

Table 4: Correlation Analysis Result of the Duration of Child Marriage and the Level of Trauma Symptoms Experienced by Women and Girls

Variables	Pearson Correlation Coefficient (r)	p-value
Duration of Child Marriage Vs Level of Trauma Symptoms	0.42	0.001

Results in Table 4 indicated that there is a significant positive correlation between the duration of child marriage and the level of trauma symptoms experienced by Southwest Nigerian women and girls ($r = 0.42, p = 0.001$). Hence, hypothesis three was rejected and we conclude that significant positive correlation exists between the duration of child marriage and the level of trauma symptoms experienced by Southwest Nigerian women and girls.

4. Discussion of Results

Trauma-informed interventions have shown promise in improving psychological well-being among Nigerian women and girls who have experienced trauma. A study on Southwest Nigerian women and girls found that those who received trauma-informed interventions had significantly higher psychological well-being scores compared to those who did not (mean = 65.2 ± 10.5 vs. 52.1 ± 12.3 , $t = 3.21$, $p = 0.001$). Recent research supports the effectiveness of trauma-informed care in addressing mental health issues among women who have experienced violence. For example, a scoping review on trauma-informed care for Black women navigating sexual health-related trauma highlights the importance of culturally responsive care and social support in promoting healing (Troutman, Are, Okoye, Chiang, Craig, *et al.*, 2025). Other studies have found that interventions like cognitive behavioral therapy (CBT), mindfulness-based stress reduction, and trauma recovery and empowerment model (TREM) can significantly reduce PTSD symptoms, depression, and anxiety among women who have experienced trauma.

The result in hypothesis 3 indicates that education significantly influences the psychological impact of child marriage on Southwest Nigerian women and girls. This finding is consistent with recent studies that highlight the protective role of education against child marriage and its associated psychological trauma. Research has shown that higher levels of education are associated with lower rates of child marriage and improved psychological well-being among Nigerian women and girls. For instance, a study found that women who attained primary education were 36% less likely to be married before age 18, while those with secondary education were 81% less likely (Oyebisi, Dawodu, & Gayawan, 2025). The negative psychological impacts of child marriage are well-documented, including increased risks of depression, anxiety, and suicidal thoughts. A study in Niger and Ethiopia found that child marriage was associated with poorer psychological well-being, including increased symptoms of depression and anxiety (Burgess, Jeffery, Odero, Rose-Clarke, Devakumar, 2022).

The result in hypothesis 4 indicates a significant positive correlation between the duration of child marriage and the level of trauma symptoms experienced by Southwest Nigerian women and girls. This finding aligns with recent studies highlighting the negative impacts of child marriage on mental health. Research suggests that child marriage is associated with increased risks of depression, anxiety, and suicidal thoughts (Le Strat *et al.*, 2011; John *et al.*,

2019). A study in Niger and Ethiopia found that child marriage was linked to poorer psychological well-being, including increased symptoms of depression and anxiety (Burgess, Jeffery, Odero, Rose-Clarke, Devakumar, 2022). In Nigeria, child marriage is prevalent, with 44% of girls married before age 18 and 18% before age 15 (World Bank, 2017). The practice is driven by poverty, cultural norms, and limited access to education (Adeyemi, 2022; Oyebisi, Dawodu, & Gayawan, 2025).

5. Conclusion and Recommendations

This study reveals significant links between child marriage, education, and psychological trauma among Southwest Nigerian women and girls. The study concluded that education level influences psychological impact ($F(3, 296) = 4.52$, $p = 0.004$); duration of child marriage correlates with trauma symptoms ($r = 0.42$, $p = 0.001$); and that Trauma-informed interventions improve psychological well-being.

Implications from these findings include education-based interventions can mitigate child marriage's psychological toll; targeted trauma care considering marriage duration is crucial; and scaling community engagement and education programs may reduce child marriage rates.

Hence, the study recommended that there is a need to integrate trauma-informed care into support systems; promote girls' education to combat child marriage effects; and develop policies addressing root causes (poverty, norms).

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Spirituality and Mental Health among Public Primary School Teachers in Maiduguri, Borno State, Nigeria

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Abstract. This study assessed association between spirituality and mental health among teachers in Maiduguri, Borno State, Nigeria. Spirituality is known as a factor that positively adds to many individuals' health, and the concept of spirituality found in all and societies and cultures. In a literary meaning, it can be interpreted as a way by which individual involve himself/herself in religion participation or belief in God, naturalism, meditation, humanism, family and the arts. mental health occurs when a person satisfying with life, work effectively and vehemently, manage with usual stress, and contribute positively to his or her community and society. The ability of an individual to adjust in his/her environment socially, mentally, and physically is known as mental health of such individual. A school-based cross-sectional survey design was adopted for this study. The population of this study comprises all public primary school teachers in three selected Local Government in Maiduguri; Jere, Konduga and MMC, 406, 195 and 711 respectively numbering 1,312, while the sample size is 400. Proportionate sample technique was used to ensure equal aggregate as the number of respondents in each local government differs, while availability sampling method was used to administer the questionnaire to the available teachers in the school. The name of the instrument for this study is Association between Spirituality and Mental Health. It

uses 4-point likert scale where 4 = Strongly Agree SA, 3 = Agree A, 2 = Disagree D, 1= Strongly Disagree SD. The instrument validated for content and face validity by experts in the Department of Education University of Maiduguri by specialists in Testing and Measurement, and Psychology. The reliability of the instrument was determined using Split-half reliability method. The reliability of the instrument was test at Gwange Primary School Maiduguri, Borno State among 20 teachers. Data collected were analyzed using Cronbach Alpha reliability full test of 0.71 and 0.83 respectively which adjudge it reliable. Descriptive statistics of frequency counts and percentages were used to describe the demographic information of the respondents, mean and standard deviation were used to answered the research questions, while inferential statistics of Independent Sampled t-test and Pearson Product Moment Correlation (PPMC) were used to test the hypotheses. The result indicated that level of spiritual health among teachers in Maiduguri, Borno State, Nigeria is high, but poor mental health. Moreover, the result indicated that there is significant relationship between spirituality and mental health among public primary school teachers in Borno State, Nigeria ($P < .05$). It was concluded that the level of spirituality among public primary school teachers in Maiduguri, Borno State, Nigeria is, but their mental health is considerable low.

Government, proprietors, principal may develop programs that facilitate the identification, prevention, and treatment of mental health among teachers.

Keywords: Spirituality, Human Spirituality, Health, Mental Health

1. Introduction

Human Spirituality is increasingly being proven as real scientific phenomenon and not merely a mental illusion (Rose, 2001; Seaward, 2001). Spirituality is known as a factor that positively adds to many individuals' health, and the concept of spirituality found in all and societies and cultures. In a literary meaning, it can be interpreted as a way by which individual involve himself/herself in religion participation or belief in God, naturalism, meditation, humanism, family and the arts. All these factors can influence how patients and health care providers perceive health and illness and how they interact with one another (Association of American Medical Colleges, 1999). Many studies reported that when confronted with stressful conditions, schoolteachers mostly rely on their spirituality (Matiz et al., 2020; Mirshahi & Barani, 2016). Chirico, Sharma, Zaffina and Magnavita, 2020, reported in their empirical study that teachers in public schools in different nations demonstrated how teachers' spiritual beliefs and practices were used to cope with the numerous challenges they confronted. Additionally, a prior study discovered that spirituality could mediate the relation between nature-connection and psychological well-being among Australians (Kamitsis & Francis, 2013).

According to W.H.O. 2004, mental health occurs when a person satisfying with life, work effectively and vehemently, manage with usual stress, and contribute positively to his or her community and society. The ability of an individual to adjust in his/her environment socially, mentally, and physically is known as mental health of such individual. Hence, in the educational setting, mental health of a teacher contributes immensely to effective teaching and learning, and plays essential role in achieving the objectives of teaching. Also, it carries out the quality teaching learning process in general and student's holistic development in particular. Mental inequities such as anxiety, frustrations, tensions, depression, panic among others are the principal obstacles in the way of achievements among students and teachers (Goel, 2015).

Some researchers reported that spirituality prevent mental disorder and it is positively associate with happiness, higher morale and life satisfaction (Cohen

& Koeing, 2004; MoreiraAlmeida et.al., 2006). In the study of Brady et.al. (1999), it was found that an individual who is mentally and spiritually developed is likely to have quality of life and capacity to adore life even especially during the difficult situations such as spiritual attack or illness, experiencing harsh illnesses, and stated further that spiritual people deal better with symptoms such as pain or fatigue. Sharma (2002) and Cohen and Koeing, (2004) established relationship between mental health and spirituality as the former author stated that a situation in which an individual demonstrate or show maturity, regular life, life satisfaction, self-evaluation, adjustability and absence of extremism is called mental health, while later authors explained that freedom from mental disorders such as depression, bipolar disorder and schizophrenia is not only mental health, but also as frequent experiences of positive emotions such as joy, contentment, and peace. It is against this background that this study was carried out to assess association between spirituality and mental health among teachers in Maiduguri, Borno State, Nigeria.

1.1 Hypotheses

The following hypotheses were tested:

HO₁: There is no significant relationship between mental health and spirituality among teachers in Maiduguri, Borno State.

HO₂: There is no significant difference in spirituality among teachers in Maiduguri, Borno State based on gender.

HO₃: There is no significant difference in mental health among teachers in Maiduguri, Borno State based on gender.

2. Research Methodology

2.1 Design

A school-based cross-sectional survey design was adopted for this study.

2.2 Population and Sample

The population of this study comprises all public primary school teachers in three selected Local Government in Maiduguri; Jere, Konduga and MMC, 406, 195 and 711 respectively numbering 1,312. By using formula $n = z^2 pq/d^2$ discovered by Kish, 1965, a sample size of 384 was obtained, where n = desired sample size, z = S.D. at 1.96 \equiv 95% of confidence interval, p = prevalence rate of desired characteristic in the target population (0.5), $q = 1-p$, d = degree of accuracy at 95% confidence interval = 0.05. In order

to correct for alterations or non-responses the figure was round up to 400. Proportionate sample technique was used to ensure equal aggregate as the number of respondents in each local government differs, while

availability sampling method was used to administer the questionnaire to the available teachers in the school.

Table 1: Population and Sample

S/N	L.G.A	Population	Sample
1.	Jere	406	119
2.	Konduga	195	57
3.	MMC	711	208
	Total	1,312	384

Source: Borno State Universal Basic Education (UBE)

2.3 Research Instrument

The name of the instrument for this study is Association between Spirituality and Mental Health. It is divided into 3 sections. Section A deals with demographic information of the respondents e.g (gender, age, years of experience). Section B deals with spirituality of the teachers. It was adapted and modified from previous study (Paloutzian & Ellison, 1982). For the purpose of this study, the response mode was modified from 6-likert mode to 4. It contains 20 items questionnaire with a 4-point response scale where 4 = Strongly Agree SA, 3 = Agree A, 2 = Disagree D, 1= Strongly Disagree SD. Items 1-10 evaluate the religious well-being (RWB), while items 11-20 evaluate existential well-being (EWB). The item 1, 2, 3, 4, 5, 6, 7,8 and 9 which are negative questions were modified to positive for easy analysis. The section C deals with Mental Health of the teachers. It was adapted from (Goldberg & Williams, 1988; Schmitz, Heckrath, Alberti & Tress, 1999) and the response mode was modified. It contains 12 items questionnaire with a 4-point response scale where 4 = Strongly Agree SA, 3 = Agree A, 2 = Disagree D, 1= Strongly Disagree SD. The criteria for determining the spirituality and mental health among the participants was obtained by sum up all the scores of the response mode across and divide it by 4. That is, $4+3+2+1/4= 2.5$. Olaitan (1983), stated that any score

≥ 2.5 , was adjudge high level of spirituality or mental health, while figure below 2.5 is considered low level of spirituality or mental health. Verbal approval was obtained from Borno State Universal Basic Education who gave us total number of teachers and permission to carry out the research work.

The instrument validated for content and face validity by experts in the Department of Education University of Maiduguri by specialists in Testing and Measurement, and Psychology. The reliability of the instrument was determined using Split-half reliability method. The reliability of the instrument was test at Gwange Primary School Maiduguri, Borno State among 20 teachers. Data collected were analyzed using Cronbach Alpha reliability full test of 0.71 and 0.83 respectively which adjudge it reliable.

2.4 Method of Data Analyses

Descriptive statistics of frequency counts and percentages were used to describe the demographic information of the respondents, mean and standard deviation were used to answered the research questions, while inferential statistics of Independent Sampled t-test and Pearson Product Moment Correlation (PPMC) were used to test the hypotheses. Data analysis was done using SPSS version 20.

3. Results

Table 2: Demographic Information of the Respondents n=380

S/N	Variable	Frequency	Percentage (%)
1.	Gender		
	Male	170	44.7%
	Female	210	55.3%
2.	Age		
	≤ 25	42	11.1%
	26-30	40	10.5%
	31-35	58	15.3%
	36-40	59	15.5%
	41-45	75	19.7%
	46-50	53	13.9%
	≥51	53	13.9%
3.	Teaching Experience		
	> 2yrs	82	21.6%
	2-4yrs	87	22.9%
	5-7yrs	95	25.0%
	8-10yrs	73	19.2%
	≥11yrs	43	11.3%
4.	Edu. Qual.		
	NCE/DIPLOMA	123	32.4%
	HND	107	28.2%
	B.Sc./ B. Ed	96	25.3%
	PGDE	54	14.2%

Table 2 which is on demographic information of the respondents indicated that 170(44.7%) of the respondents were male, while 210(55.3%) were female teachers. The ages of the respondents revealed that 42(11.1%) of the respondents were less than or equal to 25, 40(10.5%) were between the ages of 26-30, 58(15.3%) were between the ages of 31-35, 59(15.5%) were between the ages of 36-40, 75(19.7%) were between the ages of 41-45, 53(13.9%) were between the ages of 46-50, while 53 (13.9%) of these respondents were greater than or equal to 51 years of age. The table further showed that most of these teachers had 5-7years of experience. The table also revealed that most of these teachers 123(32.4%) had NCE/DIPLOMA

Table 3: Spiritual Well-Being Scale (SWS) of the Respondents n=380

SN	Statement	Mean	S.D	Decision
1.	I find much satisfaction in private prayer with God.	2.4	1.06	Low
2.	I believe that God loves me and cares about me.	2.6	1.06	High
3.	I believe that God is concerned about my problems.	2.6	1.02	High
4.	I believe God is impersonal and interested in my daily situations.	2.7	1.05	High
5.	I get much personal strength and support from my God.	2.3	1.04	Low
6.	My relation with God contributes to my sense of well-being.	2.8	1.00	High
7.	I have a personally meaningful relationship with God.	2.6	1.06	High
8.	I have a personally satisfying relationship with God.	2.7	1.02	High
9.	My relationship with God helps me not to feel lonely.	2.6	1.47	High
10.	I feel most fulfilled when I am in close communion with God.	2.5	1.05	High
11.	I know who I am, where I came from, or where I am going.	2.5	1.06	High
12.	I enjoyed much about life	2.5	1.05	High
13.	I feel very fulfilled and satisfied with life.	2.6	1.03	High
14.	I feel good about my future	2.5	1.05	High

15.	I have a sense of well-being about the direction of my life.	2.7	1.04	High
16.	I feel that life is not full of conflict and unhappiness.	2.4	1.09	Low
17.	I feel that life is a positive experience.	2.8	2.28	High
18.	Life do have much meaning.	2.5	1.04	High
19.	I feel comfortable about my future.	2.6	1.04	High
20.	I believe there is some real purpose for my life	2.6	1.03	High
	Total	2.6	1.1	High

Result of table 3 indicates mean and standard deviation scores of spiritual well-being among the respondents. The analysis reveals that more of the items were rated above a mean score of 2.5 by the respondents. The responses by these respondents are evident in a grand mean and SD score of 2.6 and 1.1 respectively. This implies that the level of spiritual well-being among the respondents is high.

Table 4: Mental Health of the Respondents
n=380

SN	Statement	Mean	SD	Decision
1.	Play useful part in things (P)	2.6	1.06	High
2.	Face up to problems (P)	2.7	1.02	High
3.	Could concentrate (P)	2.5	1.04	High
4.	Reasonably happy (P)	2.5	1.05	High
5.	Enjoying day-to-day activities (P)	2.6	1.05	High
6.	Lost sleep over worry (N)	2.3	1.02	Low
7.	Constantly under strain (N)	2.4	1.04	Low
8.	Difficulty in decision making (N)	1.9	0.87	High
9.	Could not overcome difficulties (N)	2.4	1.06	Low
10.	Unhappy and depressed (N)	2.7	1.06	High
11.	Felt worthless (N)	2.4	1.03	Low
12.	Lost self-confidence (N)	2.1	0.99	Low
	Total Mean/SD	2.4	1.02	Low

Result of table 4 indicates mean and standard deviation scores of mental health among the respondents. The analysis reveals that more of the items were rated above a mean score of 2.5 by the respondents. The responses by these respondents are evident in a grand mean and SD score of 2.4 and 1.02 respectively. This implies that the level of mental health among the respondents is moderately low.

HO₁: There is no significant relationship between mental health and spirituality among teachers in Maiduguri, Borno State.

Table 5: Pearson Product Moment Coefficient of relationship between Spirituality and Mental Health among Public Primary School Teachers in Borno State, Nigeria.

Variables	Mean	Std. Dev	N	df	R	Prob	Decision
Spirituality	2.97	0.289	380	378	1*	0.000	Rejected
Mental Health	2.15	0.210	380				

Df =378, r=1, prob.=0.000

Table 5 indicated that spirituality has a mean of 2.97 and standard deviation of 0.289; also, mental health has mean of 2.15, and standard deviation of 0.210. Correlation coefficient (r) value of 1 indicates a strong positive correlation between spirituality and mental health. The low p-value (0.000) suggests that this correlation is statistically significant, further supporting the rejection of the null hypothesis. This shows that the stated hypothesis that there is no significant relationship between spirituality and mental health among public primary school teachers in Borno State, Nigeria was rejected. Hence, there is significant relationship between spirituality and mental health among public primary school teachers in Borno State, Nigeria (P<.05).

HO₂: There is no significant difference in spirituality among teachers in Maiduguri, Borno State based on gender.

Table 4 Shows Summary of Independent Sample t-test on Mental Spirituality among Teachers in Public Primary Schools in Borno State, Maiduguri Based on Gender.

	Gender	N	Mean	SD	df	t	P-value	Decision
Mental Health	Male	170	2.7597	.2651	378	1.942	0.150	retained
	Female	210	2.6480	.2460				

t= 1.942, df=378, P-value=.150

Table 4 contain information on spirituality among teachers in public primary schools in Borno State, Maiduguri based on gender. Independent sample t-test was applied to test the null hypothesis. The result indicated that there is no significant difference in spirituality of public primary school teachers in Borno State, Maiduguri based on gender (P>0.05). Hence, the null hypothesis was retained.

HO₃: There is no significant difference in mental health among teachers in Maiduguri, Borno State based on gender.

Table 4 Shows Summary of Independent Sample t-test on Mental Health among Teachers in Public Primary Schools in Borno State, Maiduguri Based on Gender.

	Gender	N	Mean	SD	df	t	P-value	Decision
Mental Health	Male	170	2.6497	.2652	378	1.952	.520	retained
	Female	210	2.5960	.4682				

t=-.496, df=359, P-value=.620

Table 4 contain information on mental health among teachers in public primary schools in Borno State, Maiduguri based on gender. Independent sample t-test was applied to test the null hypothesis. The result indicated that there is no significant difference in mental health of public primary school teachers in Borno State, Maiduguri based on gender (P>0.05). Hence, the null hypothesis was retained.

4. Discussion

This study assessed association between spirituality and mental health among teachers in Maiduguri, Borno State, Nigeria. The result indicated that level of spiritual health among teachers in Maiduguri, Borno State, Nigeria is high. These respondents know and belief that their religious engagement contribute to their better health condition by making happy, excited, unnecessary aggression which free them from stress and contribute to their live satisfaction positively. This could be attributed to the fact that in Nigeria and Africa at large people practice religion and hold on to it tenaciously (2001). This is in line with the study of Bansal, Maroof, Parashar, et al (2008) who conducted study among Northern India doctors, found that among doctors of North India, more than 65% had very strong belief in the spiritual dimension of health; 55.22% believed in the preventive role of spirituality; 80% believed in the curative role of spirituality and a similar proportion held the view that spirituality has an important role in dayto-day patient care; and 92.5% wanted to know more about the scientific work being

done in the field of spirituality. The result of this study also similar to previous study conducted by Mohamed, Roslan, Zaremohzzabieh & Ahrari (2022), who reported that schoolteachers who had a strong connection to nature were less likely to experience burnout, and spirituality acted as a buffer in the relationship between connection to nature and burnout.

The level of mental health among the respondents is moderately low. This is consistence to the study of Bauer et al. 2007; Dagar and Mathur, 2016; Zhang, Deng, and Li, 2006; Lei, 2007; Nagai, Tsuchiya, Toulopoulou, and Takei (2007) pinpointed that psychological problems are more serious among female teachers than male teachers. Thus, it indicates that both male and female teachers suffer more from mental problems. However, Medmood, Inamullah and Çerçikaya, (2022), who conducted study on teacher's mental health: a descriptive study of subject specialist teachers at higher secondary level in Pakistan, and reported that both male and female teachers rarely suffer from mental problems and physical problems. Also, both the groups possessed better mental health. However, there is no significant difference between mental health of male and female teachers. The disagreement in the study could be attributed to differences in job satisfaction.

There is significant relationship between spirituality and mental health among public primary school teachers in Borno State, Nigeria (P<.05). This means

that the higher the level of spirituality the higher the mental health of these teachers. More accurately there is conclusive evidence that spirituality leads to mental health. Moreover, spirituality of individuals stimulates mental health, and spiritual individuals enjoy better mental health status. The result of this study buttresses the study of Govind and Amalor (2015), who carried out study on mental health in relation to spirituality among adolescents, and discovered that there is a significant positive correlation between mental health and spirituality ($r=0.274$; $p<0.01$). This similar to the previous study of Hill and Pargament, (2003). They reported that spiritual people may draw strength, comfort, and confidence from their personal relationship with God and feel less loneliness, depression, and stress in their lives.

The result of this study indicated that there is no significant difference in spirituality of public primary school teachers in Borno State, Maiduguri based on gender ($P>0.05$). This is related to the previous study that discovered that males 132.90 and female 133.27 students do not differ in their spiritual qualities. That is there is no significant gender difference with regard to spirituality. But it was observed that males and females differ in self-esteem dimension of spirituality (Govind & Amalor, 2015). Similarly, when the authors compare the respondents in terms of locations (rural and urban), the observed that the mean of spirituality score of rural students is 131.24 and that of urban students is 133.83. The obtained t-value is -0.793 is not statistically significant which indicates that the difference is not significant. The result indicates that rural students have equally spiritual tendency with the urban students. The result of this study does not support the study of Gautam, Dwivedi, Jain et al (2017), who noticed that females inculcate spiritual practices in their day-to-day life more in comparison to males. People doing spiritual practice for at least 10 years belong to good or moderate health status & enjoy other benefits more than those not doing any such practice. The result of this study also showed that there is no significant difference in mental health of public primary school teachers in Borno State, Maiduguri based on gender ($P>0.05$). This is related to study of Medmood, Inamullah and Çerçikaya, (2022), who stated that their respondents displayed that there is no significant difference among the mental health status of male and female teachers, which means that the mental health of male teachers is significantly related to the mental health of female teachers. The finding of this study is also concurred with the study of Srivastava and Asthana (2008); Pachaiyappan (2012) revealed that, as compared to male teachers, female teachers have a high level of mental health. The researcher believes that male and female teachers have

the same profession, they deal with same students but with different strategies and have same workload. Therefore, male and female teachers have no differences in mental health. However, the result of the current study disagrees with study of Mundia (2013) who reported that his respondents differs in mental health significantly based on gender. The differences could be attributed to job motivation, job satisfaction, incentives among others.

5. Conclusion

It was concluded that the level of spirituality among public primary school teachers in Maiduguri, Borno State, Nigeria is, but their mental health is considerable low. That is, they have high level of spirituality, whereas they suffer from mental health problem. Actually, the mental health problems among these respondents is considerably low.

6. Recommendations

Based on the finding of this study, the following recommendations were made:

Government, proprietors, principal may develop programs that facilitate the identification, prevention, and treatment of mental health among teachers. Teachers may be provided with facilities like free consultancy, financial aids, etc.

A Mental Health desk for teachers may be established in every school to prevent any form of mental health problems.

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Assessment of Prevalence of Impaired Blood Glucose among Staff of University of Maiduguri

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Abstract. This study aimed to assess the prevalence of impaired blood glucose among staff at the University of Maiduguri, Nigeria, to identify potential public health concerns within an occupational setting. Utilizing an ex-post-facto cross-sectional design, the research involved 200 randomly selected staff members who underwent biomedical measurements—including fasting blood glucose, BMI, waist-to-hip ratio, and blood pressure—alongside demographic and behavioral data collection through questionnaires. The findings revealed a mean age of 42.3 years, with a gender distribution of 74% males and 26% females. The prevalence of impaired blood glucose was found to be significant; however, statistical analysis indicated no significant difference between genders ($\chi^2=0.316$, $p=0.574$), suggesting that both male and female staff are equally susceptible to early glucose metabolism disturbances. Most participants fell within the normal BMI range, but a considerable proportion were overweight or obese, correlating with increased risk factors for impaired glucose regulation. The results underscore the impact of sedentary lifestyles, occupational stress, and dietary habits prevalent in academic environments. Based on these findings, the study recommends routine screening programs, promotion of healthy lifestyle practices, and targeted health education campaigns to facilitate early detection and prevention of diabetes and related non-communicable diseases among university staff. Addressing these risk factors is essential for improving individual health outcomes and maintaining institutional productivity.

Keywords: Impaired Blood Glucose, University Staff Health, Non-Communicable Diseases, Occupational Risk Factors and Diabetes Prevention

1. Introduction

The global burden of diabetes mellitus has risen dramatically over recent decades, making it a major public health concern worldwide. According to the International Diabetes Federation (IDF, 2021), approximately 537 million adults aged 20-79 years were living with diabetes, and this number is projected to increase further in the coming years. Impaired blood glucose levels, including impaired fasting glucose (IFG) and impaired glucose tolerance (IGT), serve as precursors to type 2 diabetes and are critical indicators for early intervention. University staff, often engaged in sedentary work and facing high stress levels, may be at increased risk for developing glucose metabolism disorders. Despite this, limited data exists on the prevalence of impaired blood glucose specifically among academic and administrative staff in higher education institutions.

The workplace environment plays a significant role in influencing health behaviors and outcomes. Several studies have demonstrated that university employees tend to have lifestyles characterized by physical inactivity, poor dietary habits, and high stress, all of which are risk factors for impaired glucose metabolism (Kivimäki et al., 2018). Moreover, the demanding nature of academic responsibilities can lead to irregular schedules and limited time for exercise, further exacerbating risk factors. Screening for blood glucose abnormalities in this population is essential to identify at-risk individuals early and implement preventive health measures. However, data on the prevalence of impaired blood glucose among university staff remains scarce, especially in developing countries.

Understanding the prevalence of impaired blood glucose among university staff is crucial for designing targeted health interventions and policies. Early detection allows for lifestyle modifications and medical management that can prevent progression to overt diabetes and its associated complications. Several cross-sectional studies have highlighted the importance of workplace health screenings, which can serve as cost-effective strategies to curb the rising tide of non-communicable diseases (NCDs) such as diabetes (WHO, 2020). Furthermore, university employees represent a vital segment of the working population, and their health status can influence overall productivity and institutional well-being. In addition, assessing the prevalence of impaired blood glucose among university staff provides insights into the broader epidemiological patterns within the community. Universities often serve as microcosms of society, reflecting underlying health trends and risk factors prevalent in the general population. Identifying high-risk individuals among staff can facilitate community-wide health initiatives and inform public health policies. Studies from various regions have reported differing prevalence rates, highlighting the importance of localized data to tailor intervention strategies effectively (Akhtar et al., 2019). Thus, conducting such assessments is a vital step toward comprehensive health promotion efforts within academic institutions.

2. Research Methodology

The study adopted Ex-Post-facto research design. Ex-post-facto research, also known as causal-comparative research, is a non-experimental research design used to investigate possible cause-and-effect relationships between variables after the events have already occurred. In this type of research, the researcher does not manipulate the independent variable but instead studies it as it naturally exists (Creswell & Creswell, 2018). The term “ex-post-facto” literally means “after the fact,” indicating that the researcher examines existing conditions or events to determine their possible causes or effects. This design is particularly useful in situations where experimental manipulation is either unethical or impractical, such as studying the effects of smoking, gender, or socioeconomic status on academic performance or health outcomes.

Kerlinger and Lee (2000), ex-post-facto research involves identifying groups that differ on a particular variable and then examining how these differences affect other variables. For instance, a researcher might compare the job satisfaction levels of university staff who engage in regular physical activity with those who do not, without manipulating their exercise

habits. The researcher relies on existing data or naturally occurring groups to infer relationships between variables. However, because there is no direct control over the independent variable, establishing definitive causality is difficult. Instead, the researcher can only suggest associations or possible causal links based on observed patterns and statistical analysis.

2.1 Instruments for the Research

To achieve the stated objectives of determining behavioural and biomedical health risk factors among staff of the University of Maiduguri, a combination of questionnaire-based tools and biomedical measurement instruments.

2.2 Instruments for Measuring Prevalence of Obesity

Weighing Scale – to measure body weight in kilograms.

Stadiometer – to measure height in meters.

Measuring Tape – to measure waist and hip circumference for calculating waist-to-hip ratio.

Body Mass Index (BMI) Formula – to determine obesity status using weight and height measurements.

2.3 Instruments for Measuring Prevalence of Impaired Blood Glucose

Glucometer with Test Strips – to measure fasting blood glucose levels.

Lancets and Alcohol Swabs – for safe and hygienic blood sample collection.

Laboratory Glucose Analyzer (optional) – for confirmatory fasting plasma glucose or HbA1c testing.

General Instruments and Materials

Informed Consent Form – to obtain voluntary participation from respondents. Data Collection Form or Questionnaire Booklet – to record all responses and measurements systematically.

2.4 Procedure for Data Collection

The data collection procedure for the study on behavioural and biomedical health risk factors among staff of the University of Maiduguri was involve several systematic steps to ensure accuracy, reliability, and ethical compliance. The process includes preparation and biomedical measurements.

2.5 Preparation Stage

Before data collection begins, ethical approval was obtained from the University of Maiduguri Research Ethics Committee. Permission was sought from the

university management to access staff members across various departments. Research assistants were trained on the objectives of the study, ethical considerations, and proper use of instruments such as sphygmomanometers, glucometers, and lipid profile kits. All instruments were calibrated and tested for accuracy before use.

2.6 Recruitment and Informed Consent

Participants will be selected using a systematic random sampling technique from the staff register. Each selected staff member were approached individually, and the purpose of the study will be explained. Participants were assured of confidentiality and anonymity. Those who agree to participate will sign an informed consent form before data collection begins.

2.7 Biomedical Measurements

After completing the questionnaires, participants undergo biomedical assessments conducted by trained health personnel.

Blood Pressure Measurement: Each participant rest for at least five minutes before measurement. Blood pressure were taken using a digital sphygmomanometer, with two readings recorded and the average used for analysis.

Anthropometric Measurements: Weight were measured using a calibrated weighing scale, and height will be measured using a stadiometer. Body Mass Index (BMI) will be calculated as weight (kg) divided by height (m²). Waist and hip circumferences will also be measured to determine waist-to-hip ratio.

Blood Glucose Test: Fasting blood glucose was measured using a glucometer after participants have fasted for at least eight hours.

2.8 Data Recording and Quality Control

All data were recorded immediately on standardized data collection forms. Each participant will be assigned a unique identification code to maintain confidentiality. The principal investigator review all forms daily to ensure completeness and accuracy. Any missing or inconsistent data will be verified with the participant where possible.

2.9 Data Management and Storage

Collected data were entered into a secure database using statistical software such as SPSS for analysis. Hard copies of questionnaires and measurement sheets will be stored in locked cabinets, while electronic data will be password-protected. Only the research team will have access to the data.

This procedure ensures that both behavioural and biomedical data are collected systematically, ethically, and accurately to achieve the study’s objectives on the prevalence of health risk factors among staff of the University of Maiduguri.

Data collected for the study was analysed using descriptive statistics of frequency counts and percentage to describe the demographic characteristics of the respondents while inferential statistics of chi-square was used to test the objectives at 0.05 level of significance.

3. Results

Descriptive Statistics of Lecturers at University of Maiduguri, Borno State
Sample Size: N = 200

Table 1: Demographic Characteristics

Variable	Mean ± SD	Range
Age (years)	42.3 ± 8.7	28-65
Height (cm)	169.4 ± 8.2	152-189
Weight (kg)	73.8 ± 12.4	48-110
BMI (kg/m ²)	25.7 ± 3.9	18.2-36.4

Table 1: Demographic Characteristics

This table presents the basic demographic data of 200 lecturers from the University of Maiduguri. The average age of the lecturers is 42.3 years, with a standard deviation of 8.7 years, indicating a middle-aged academic staff with ages ranging from 28 to 65 years. The average height is 169.4 cm, with heights spanning from 152 to 189 cm. The mean weight is 73.8 kg, varying from 48 to 110 kg. The body mass index (BMI), which assesses body fat based on height

and weight, has an average of 25.7 kg/m², with a range from 18.2 to 36.4, indicating a mix of normal weight and overweight individuals among the lecturers.

Table 2: Gender Distribution

Gender	n	Percentage (%)
Male	148	74.0
Female	52	26.0
Total	200	100.0

Table 2: Gender Distribution

This table summarizes the gender composition of the lecturer population. Out of 200 lecturers, 148 are male, representing 74% of the sample, while 52 are female, making up 26%. The total proportion adds up to 100%, illustrating a gender imbalance skewed towards males within the academic staff.

Table 3: Characteristics by Gender

Variable	Male (n=148)	Female (n=52)
Age (years)	43.1 ± 8.9	40.2 ± 7.8
Height (cm)	172.5 ± 7.4	160.8 ± 5.9
Weight (kg)	76.2 ± 12.1	66.9 ± 10.8
BMI (kg/m ²)	25.6 ± 3.8	25.9 ± 4.2

Table 3: Characteristics by Gender

This table compares demographic and anthropometric variables between male and female lecturers. Males tend to be slightly older (average age 43.1 years) compared to females (40.2 years). Males are also taller (172.5 cm vs. 160.8 cm), heavier (76.2 kg vs. 66.9 kg), and have a marginally lower BMI (25.6 vs. 25.9). These differences reflect typical gender-based physical distinctions, with males generally being taller and heavier, but BMI values are similar, indicating comparable body compositions.

Table 4: Age Distribution by Categories

Age Category	Male n (%)	Female n (%)	Total n (%)
25-34 years	28 (18.9%)	14 (26.9%)	42 (21.0%)
35-44 years	54 (36.5%)	22 (42.3%)	76 (38.0%)
45-54 years	48 (32.4%)	13 (25.0%)	61 (30.5%)
55-65 years	18 (12.2%)	3 (5.8%)	21 (10.5%)
Total	148 (100%)	52 (100%)	200 (100%)

Table 4: Age Distribution by Categories

This table breaks down the age groups and gender distribution within each category. The largest proportion of lecturers falls within the 35-44 years age group, with 36.5% of males and 42.3% of females. The 45-54 years group is also significant, comprising 32.4% of males and 25% of females. Fewer lecturers are in the 55-65 years bracket, especially among females (5.8%), indicating a relatively younger academic staff overall. The data show that most lecturers are in the mid-career age range.

Table 5: Anthropometric Characteristics by Age Group

Age Group	n	Height (cm)	Weight (kg)	BMI (kg/m ²)
25-34 years	42	170.2 ± 8.5	69.4 ± 11.2	23.9 ± 3.2
35-44 years	76	169.8 ± 8.1	73.6 ± 12.1	25.5 ± 3.7
45-54 years	61	168.9 ± 8.3	76.8 ± 12.5	26.9 ± 4.1
55-65 years	21	167.4 ± 7.9	75.3 ± 13.2	26.8 ± 4.3
Overall	200	169.4 ± 8.2	73.8 ± 12.4	25.7 ± 3.9

Table 5: Anthropometric Characteristics by Age Group. This table examines how height, weight, and BMI vary across different age groups. Younger lecturers (25-34 years) have a mean height of 170.2 cm, weight of 69.4 kg, and BMI of 23.9, indicating a generally healthier and leaner profile. As age increases, height slightly decreases (from 170.2 to 167.4 cm), while weight and BMI increase, reaching 76.8 kg and 26.9 BMI in the 45-54 years group. Overall, there is a trend toward increased body weight and BMI with age, which is common due to metabolic and lifestyle changes.

Table 6: BMI Classification

BMI Category	Male n (%)	Female n (%)	Total n (%)
Underweight (<18.5)	3 (2.0%)	2 (3.8%)	5 (2.5%)
Normal (18.5-24.9)	62 (41.9%)	20 (38.5%)	82 (41.0%)
Overweight (25.0-29.9)	58 (39.2%)	20 (38.5%)	78 (39.0%)
Obese (≥30.0)	25 (16.9%)	10 (19.2%)	35 (17.5%)
Total	148 (100%)	52 (100%)	200 (100%)

Table 6: BMI Classification. This table categorizes lecturers based on their BMI. Most are within the normal weight range (18.5-24.9), accounting for 41% of the total. Nearly 39% are overweight, and 17.5% are obese, with a small percentage (2.5%) being underweight. The distribution is roughly similar across genders, though a slightly higher percentage of females are in the obese category compared to males, highlighting potential health considerations related to body weight.

Table 7: Academic Rank Distribution

Academic Rank	N	Age (Mean ± SD)	Male/Female
Assistant Lecturer	38	32.4 ± 3.2	26/12
Lecturer II	52	37.8 ± 4.1	38/14
Lecturer I	48	42.5 ± 3.8	36/12
Senior Lecturer	36	48.9 ± 4.2	28/8
Associate Professor	18	53.2 ± 3.9	14/4
Professor	8	58.6 ± 3.1	6/2
Total	200	42.3 ± 8.7	148/52

Table 7: Academic Rank Distribution. The table details the academic ranks of the lecturers, with the majority being Assistant Lecturers (38) and Lecturers II (52). The average age increases with rank, from 32.4 years for Assistant Lecturers to 58.6 years for Professors, reflecting career progression. Gender distribution within ranks shows a mix, with more males occupying higher ranks. The data depict typical academic career development and demographic patterns within the university.

There is no significant difference between male and female lecturers in the prevalence of impaired blood glucose among academic staff of University of Maiduguri.

Table 8: Summary of chi-square analysis on impaired blood glucose Classification by Gender

Blood Glucose Status	Male	Female	Total
Impaired	45(46.62)	18(16.38)	63(63)
Normal	103(101.38)	34(35.62)	137(137)
Total	148(148)	52(52)	200(200)

Chi-Square (χ^2)=0.316; df=1;prob=0.574

The chi-square analysis examining the prevalence of impaired blood glucose among male and female lecturers at the University of Maiduguri reveals that there is no statistically significant difference between the two genders. The calculated chi-square value ($\chi^2 = 0.316$) with 1 degree of freedom results in a p-value of 0.574, which exceeds the conventional threshold of 0.05 for statistical significance. Although a higher percentage of males (46.62%) are reported to have impaired blood glucose compared to females (16.38%), this difference could be attributed to chance rather than a true underlying disparity. The similar overall prevalence rates indicate that both male and female academic staff are equally susceptible to early metabolic disturbances.

4. Discussions

The study's finding that there is no significant difference in the prevalence of impaired blood glucose between male and female lecturers at the University of Maiduguri aligns with some existing research suggesting that gender may not be a primary determinant in early glucose metabolism disturbances within certain populations (Al-Lami et al., 2020). The chi-square analysis yielded a p-value of 0.574, indicating that the observed differences in impaired blood glucose levels between genders are likely due to chance rather than a true underlying disparity. This suggests that both male and female academic staff are equally susceptible to impaired glucose regulation, possibly influenced more by shared occupational and lifestyle factors than by gender-specific biological differences (Khan et al., 2019).

Biologically, men and women can exhibit differences in glucose metabolism, often attributed to hormonal variations such as insulin sensitivity influenced by sex hormones like estrogen and testosterone (Matsuzaki et al., 2014). However, these differences tend to diminish with age or in the presence of similar environmental factors, such as diet, physical activity, and stress levels, which are common in occupational settings like universities (Miller et al., 2018). In the context of academic staff, prolonged sedentary work and stress-related factors could equally impact both genders, leading to comparable rates of impaired glucose regulation. Hence, the current findings reinforce the idea that environmental and behavioral factors may play a more significant role than biological sex in the development of impaired glucose metabolism in this population.

This lack of gender disparity in impaired blood glucose prevalence emphasizes the importance of inclusive screening and health promotion strategies among university staff. Since both male and female lecturers are equally affected, health interventions should focus on lifestyle modifications such as promoting physical activity, healthy eating, and regular blood glucose monitoring across the entire workforce (WHO, 2016). Such comprehensive approaches are essential for early detection and management of pre-diabetic conditions, which can prevent progression to full-blown diabetes and reduce associated health complications (American Diabetes Association, 2021). Tailoring health programs to address shared risk factors, regardless of gender, can therefore be more effective in this setting.

The absence of a significant difference between male and female lecturers in impaired blood glucose

prevalence underscores the importance of addressing common lifestyle and occupational risk factors in the entire academic staff. These findings suggest that gender-specific interventions may not be necessary at this stage, and instead, universal preventive measures should be prioritized. Future research could explore additional variables such as age, duration of employment, and lifestyle behaviors to better understand the determinants of impaired glucose regulation and to develop targeted strategies for health promotion in academic populations (Khan et al., 2019; WHO, 2016).

5. Conclusion

This study indicates that the prevalence of impaired blood glucose among staff at the University of Maiduguri is significant, with no statistically significant difference between males and females, suggesting that both genders are equally susceptible due to shared occupational and lifestyle factors such as sedentary routines and stress. These findings highlight the importance of implementing inclusive health promotion and screening programs that focus on lifestyle modifications like increased physical activity, healthy eating, and regular monitoring for all staff members, regardless of gender, to facilitate early detection and prevent progression to diabetes.

6. Recommendations

Based on the study the findings recommended:

- The university should establish routine blood glucose and BMI screening for all staff to facilitate early detection of impaired glucose regulation and other non-communicable disease risk factors.
- The university should develop and promote programs that encourage physical activity, healthy eating, stress management, and weight control among staff members to reduce risk factors associated with impaired blood glucose.
- Conduct health education campaigns to raise awareness about the importance of maintaining healthy blood glucose levels and adopting lifestyle modifications to prevent diabetes.
- Create policies that facilitate physical activity, such as incorporating exercise breaks, providing fitness facilities, or encouraging active commuting to work.

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