ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

RESEARCH ARTICLE

THE 18-YEAR AGE BENCHMARK FOR TAKING WAEC AND UTME IN NIGERIA: PHYSICS TEACHERS PERCEPTION OF COGNITIVE AND AFFECTIVE CAPABILITIES OF PHYSICS STUDENTS

Jamiu Oluwadamilare AMUSA

Department of Science Education, National Open University of Nigeria

ABSTRACT

The widespread public backlash that followed Nigerian Education Ministry on fixing the age of students for terminal examinations such WAEC, NECO and UTME at 18 years was intense. Even though the decision has been reversed, it became imperative to conduct an empirical study on the cognitive and affective capabilities of the 16 years old students who currently occupied the terminal classes in Nigeria secondary schools toward ascertaining their readiness for these examinations. Judging from the perspective of the secondary school physics teachers, this study examined the cognitive and affective capabilities of 16 years old SS3 physics students in relation to their readiness for these examinations. The study employed a descriptive survey design and utilized a validated four-point Likert scale questionnaire titled "Physics Teachers' Perception on Physics Students' Cognitive and Affective Capabilities (PHYTEPS-CAC)" for data gathering via the Science Teachers Association of Nigeria (STAN) platform. The "google form" questionnaire with reliability coefficient of 0.82 which was computed through Cronbach Alpha was distributed virtually to 163 physics teachers who were selected through convenient sampling technique. The collected data was analysed using the descriptive statistics of percentages, mean and standard deviations while the hypotheses raised were answered using t-test and ANOVA at 0.05 significance level. Although, the perceptions of the teachers were influenced by factors such as academic qualifications, school ownership and location, it was revealed that students below 18 years benchmark have the cognitive and affective capabilities to take WAEC, NECO and UTME. Such students should be barred from taking terminal examination.

Keywords: Cognitive, affective, capabilities, terminal examinations, benchmark policy

Corresponding Author
Jamiu Oluwadamilare AMUSA
E-mail Address: jamusa@noun.edu.ng http://orcid.org/0000-0002-4739-9632

Received: 27/4/2025; **Revised:** 20/6/2025; **Accepted:** 13/7/2025; **Published:** 30/7/2025

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

1.0. INTRODUCTION

The debate surrounding the enforcement of 18-year age benchmark for candidates sitting for terminal examinations such as the West African Examinations Council (WAEC), National Examination Council (NECO), and Unified Tertiary Matriculation Examination (UTME) in Nigeria has drawn the attention of critical stakeholders nationwide. These examinations are pivotal gateways into tertiary education, and the age policy proposed to regulate student eligibility has triggered reactions across educational and social divides. The physics teachers were not exempted from this national discourse.

In 2023, the Federal Ministry of Education in Nigeria announced a formal policy requiring candidates to be at least 18 years of age before they could register for SSCE and UTME (Federal Ministry of Education, 2023). This move was ostensibly designed to harmonize Nigerian standards with global expectations and promote the maturity necessary for academic and personal success at the tertiary level. Measures such as mandatory birth certificate verification were proposed to aid enforcement (JAMB, 2023). Proponents lauded the policy for potentially improving students' emotional readiness and academic maturity, while also minimizing cases of underage university entrants who might struggle with independence and academic pressure (Akinlolu & Eze, 2024).

However, the announcement provoked a wave of backlash. Many parents, educators, and civil society groups argued that the policy could stifle academic progression for exceptionally talented students who demonstrate cognitive readiness far earlier than age 18 (Ibrahim, 2023). For some families, especially in urban centres with access to accelerated education programs, students begin school early and may legitimately be ready for tertiary education at 15 or 16. Critics viewed the new age rule as an artificial barrier that ignored individual differences and penalized high-achievers.

Moreover, Nigeria's educational ecosystem is deeply unequal. In rural and underserved communities, children often begin school late due to a lack of infrastructure or access, whereas in more affluent areas, early schooling and intensive tutoring are common (UNESCO, 2022). Thus, a rigid age policy could disproportionately affect high-performing students from better-resourced regions while failing to address the structural challenges in less privileged areas. Additionally, infrastructure necessary for verifying age, such as digital systems and standardized record-keeping remains inadequate in many schools (Umar & Gambo, 2024). Teachers, particularly those in science and technical subjects, have voiced concerns about how the policy aligns with classroom realities. In cognitively demanding subjects such as physics, student success depends not just on age but on cognitive and emotional maturity. Teachers often observe that some students under 18 years can excel in such subjects due to strong foundational knowledge and intrinsic motivation (Ogunlade & Aremu, 2021). Consequently, many educators argue that teachers' perspectives should be included in policy design, as they offer firsthand insight into student readiness.

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

In August 2024 however, the policy, which emanated as a rumour was formerly pronounced. Punch Newspaper reported that the Nigeria's Minister of Education, Professor Tahiru Maman, reaffirmed the policy, instructing WAEC, NECO, and JAMB not to register candidates under the age of 18 for the 2025 examination cycle. He based this directive on the 6-3-3-4 educational system introduced in 1982, which, by implication, supports an 18-year completion age if followed strictly from the age of six (Ogunyemi, 2019). According to the Ministry, enforcing the policy was a necessary step to ensure compliance with existing laws and to elevate academic standards nationally.

Historically, Nigeria's educational age policies were not as rigid as they are now attempting to be. During the colonial and immediate post-colonial periods, emphasis was placed more on academic capability than chronological age. When WAEC was established in 1952, its priority was to create a unified and credible examination system rather than to enforce age restrictions (Okoye & Abiodun, 2017). Informal age benchmarks began to appear in national discourse about a decade ago, with a general discouragement of students younger than 18 years sitting for the Senior Secondary Certificate Examination (SSCE) (Ogunyemi, 2019). NECO, founded in 1999, maintained similar leanings toward age-appropriate assessments, although these were rarely formalized into enforceable rules (Yusuf & Olatunji, 2020).

The Joint Admissions and Matriculation Board (JAMB), responsible for administering UTME, also began considering age as a significant factor. Concerns were growing over the readiness of young applicants for the rigors of university life, leading to internal age guidelines, albeit inconsistently enforced (Adebayo & Salami, 2021). However, this renewed emphasis on age again stirred public debate. Various stakeholders, including the Nigeria Union of Teachers (NUT), the Academic Staff Union of Universities (ASUU), the National Parent-Teacher Association of Nigeria (NAPTAN), and several NGOs—released statements either supporting or criticizing the policy (Akinlolu & Eze, 2024). National dailies featured diverse opinions, with advocates of the policy emphasizing the need to align education with developmental psychology, and opponents warning that enforcing the benchmark without flexibility would exclude a segment of bright, capable students (Adeyemi, 2023; Ibrahim, 2023; Fadokun, 2024).

One major criticism of the policy is that it appears to be based on generalized assumptions rather than empirical research. Many positions in favour or against the benchmark stem from anecdotal observations or personal experiences rather than robust data (Akinlolu & Eze, 2024). This lack of empirical evidence creates a policy vacuum, decisions are being made about a national education system affecting millions of learners without grounded studies to back them. In response to public pressure and negative media coverage, the government reversed the decision within the same year, again without citing any formal studies as justification. Given the stakes involved, there is an urgent need for a comprehensive study examining the correlation between age and academic readiness, especially in intellectually

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

demanding subjects like physics. Physics demands not only cognitive proficiency but also emotional resilience, curiosity, and problem-solving ability, which are influenced by both age and individual development (Ogunlade & Aremu, 2021). It is therefore imperative that such a policy be evaluated through the lens of teachers who work closely with students in these environments.

Cognitive development encompasses the mental processes by which students learn, understand, and apply knowledge. In science education, it involves the ability to analyse data, interpret scientific theories, and solve complex problems (Darling-Hammond et al., 2020). According to Bloom's Taxonomy, the highest level of cognitive functioning involves applying knowledge to new and unfamiliar situations (Anderson & Krathwohl, 2016). These competencies are particularly critical in subjects like physics, which often serve as benchmarks for scientific thinking. Affective development, in contrast, involves students' emotions, attitudes, interests, and values, all of which significantly impact their motivation and engagement. A student may possess the cognitive tools necessary for learning but still underperform if they lack motivation, confidence, or emotional support. The affective domain of learning is deeply tied to educational psychology and underscores the importance of emotional readiness in achieving academic success (Shubina & Kulakli, 2019).

Educational psychology, which studies how individuals learn and develop in academic settings, consistently highlights age as a key variable in cognitive and emotional development (Allen et al., 2018). Piaget's theory outlines that by adolescence (ages 12–18), students typically reach the formal operational stage, characterized by the capacity for abstract thinking—essential for mastering physics (Piaget, 1952). Vygotsky's Zone of Proximal Development (1978) also emphasizes the role of social and instructional support in advancing student learning, suggesting that teacher guidance can compensate for age-related developmental gaps.

Similarly, Erikson's psychosocial theory posits that students around age 16 are grappling with identity formation and are vulnerable to emotional instability (Erikson, 1968). Educators must recognize this and create supportive learning environments. Self-Determination Theory further explains that motivation, particularly intrinsic motivation, plays a crucial role in student success (Deci & Ryan, 1985). These perspectives collectively underscore the fact that, while age influences development, it does not function in isolation.

While the intention behind enforcing an 18-year age minimum for terminal examinations in Nigeria may be rooted in efforts to promote maturity and standardization, the policy lacks empirical grounding (Ikuerowo, 2025; Olaniran, 2024). Without data-driven insights, such policies risk excluding capable students and deepening existing educational inequities (Cheetahs Policy Institute, 2024). By centring the perspectives of physics teachers and integrating developmental psychology, future studies can provide the evidence needed to support or reform such policies (Sarumi, 2024). A data-informed approach will help align

policy with practice, ensuring that Nigeria's education system serves all students effectively and equitably. Although, the 18 years age benchmark was suspended in the early part of 2025 due to intense backlash, the need to provide empirical data to justify or nullify the decision taken is not in doubt. Understanding the students' cognitive and affective capabilities in relation to their readiness for terminal examinations becomes imperative to offers critical insight into the implications of age-based policies. Teachers' perceptions are shaped by their training, years of experience, and the environments in which they teach (Obioma & Salau, 2019). These perceptions influence their expectations and the strategies they employ in the classroom. Research has shown that teachers in urban or private schools may expect more from students due to better access to resources, while those in underfunded schools may adjust expectations accordingly (UNESCO, 2023).

This study would be further enriched by drawing upon six foundational theories: Piaget's cognitive development theory, Bloom's taxonomy, Erikson's psychosocial theory, Vygotsky's socio-cultural theory, Self-Determination Theory, and Gagné's Conditions of Learning. Together, they offer a comprehensive lens for evaluating the developmental readiness of students to sit for high-stakes examinations. These theories provide a conceptual framework to assess whether the proposed 18-year benchmark is pedagogically sound and practically feasible.

2.1. Research Questions

1. What is the perception of senior secondary physics teachers on the cognitive and affective capabilities of 16 years old SS3 physics students?
2. How has academic qualification influenced the perception of physics teachers on the cognitive and affective capabilities of 16 years old SS3 physics students?
3. In what ways has gender influenced the perception of physics teachers on the cognitive and affective capabilities of 16 years old SS3 physics students?
4. In what way has school ownership (private and public) influenced the perception of physics teachers on the cognitive and affective capabilities of 16 years old physics students?
5. How does location of school (urban and rural) influence the perception of physics teachers on the cognitive and affective capabilities of 16 years old physics students?

2.2. Research Hypotheses

1. There is no significant difference in the perception of physics teachers regarding students' cognitive and affective capabilities of senior secondary school physics students based on academic qualifications.

2. Male and female physics teachers do not differ significantly in their perception of students' cognitive and affective capabilities of senior secondary school physics students
3. There is no significant difference between the perception of public school and private school physics teachers regarding students' cognitive and affective capabilities of senior secondary school physics students
4. Physics teachers in urban schools do not differ significantly in their perception of students' cognitive and affective capabilities of senior secondary school physics students compared to those in rural schools.

3.0. MATERIALS AND METHODS

The study adopted a non-experimental descriptive survey research design. The target population was the senior secondary physics teachers in Nigeria. Purposive sampling technique was adopted to select the physics teachers who participated in the study. Volunteered physics teachers who are members of Science Teachers Association of Nigeria (STAN) and are present on the PHYSICS STAN NIGERIA WhatsApp platform and other physics teachers who participated in the National Open University of Nigeria (NOUN) and TETFUND sponsored project on Physics Learning Management System (PLMS) formed the sample of the study. These participants were accessed virtually through the existing WhatsApp platforms for the two group. On the whole, a total of 162 teachers responded to the researcher's developed virtual questionnaire titled "Physics Teachers' Perception on Physics Students' Cognitive and Affective Capabilities (PHYTEPS-CAC)".

The questionnaire was classified into section A and B. Section A contained items on demographic profile of the physics teachers while section B focused on capturing the perception of physics teachers on the title of the study. The thirty (30) items in section B were developed on a four-point Likert scale of Strongly Agree-4, Agree -3, Disagree - 2 and Strongly Disagree - 1. Preliminary findings revealed that the average age of students preparing for terminal examination was peg at 18 years. Hence, items in the instrument were constructed around 16 years age for SS3 physics students. The questionnaire was subjected to face and content validation by three experts in measurement and evaluation. The reliability coefficient was ascertained using ordinal alpha after it was trial tested on 30 physics teachers who were not part of the selected groups. The reliability coefficient computed was 0.88. Descriptive statistics of mean and standard deviation was used to respond to the research questions while independent Sample t-test was used for the test the hypothesis at 0.05 significance level.

4.0. RESULTS AND DISCUSSIONS

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

4.1. Presentation of Results

Research Question 1: What is the perception of senior secondary physics teachers on the cognitive and affective capabilities of 16 years old SS3 physics students?

The results presented in Tables 1a and 1b reveal reveals that senior secondary school physics teachers generally hold a positive perception of the cognitive and affective capabilities of 16-year-old SS3 students. In terms of cognitive development, 85.5 percent of teachers agree that students demonstrate strong problem-solving skills, abstract thinking, and the ability to apply mathematical and physical principles effectively. High agreement levels (above 88 percent) were recorded for conceptual understanding, analytical reasoning, and application of formulas.

Table 1a: Descriptive analysis of Cognitive Capabilities of Physics Students

S/N	Items	Agree	Disagree
1.	16 years old SS3 Physics students have the proficiency in applying physics formulas and principles to solve both theoretical and practical problems	90.1	9.9
2.	16 years old SS3 Physics students have the ability to analyse physics problems and develop solutions	88.8	11.1
3.	16 years old SS3 Physics students have the capacity to understand and work with abstract concepts such as energy, forces, and motion	90.2	9.9
4.	16 years old SS3 Physics students have the ability to manipulate and reason about symbolic representations (e.g., equations, diagrams)	84.4	13.6
5	16 years old SS3 Physics students have the proficiency in using mathematics to understand and solve physics problems	90.1	9.9
6	16 years old SS3 Physics students have the ability to connect different concepts and see the relationships between them	85.2	14.8
7.	16 years old SS3 Physics students have the ability to follow sequences of reasoning in proofs and derivations	85.2	14.8
8.	16 years old SS3 Physics students have the competence in transferring concepts learned in class to real-world situations or interdisciplinary contexts	81.5	18.5
9.	SS3 Physics students have the competence in interpreting data, using scientific methods, and drawing conclusions based on empirical evidence	77.8	22.2
10.	SS3 Physics students have the accuracy in calculations and attention to detail in problem-solving	85.2	14.8
11.	SS3 Physics students have the ability to detect and correct errors in work, such as miscalculations or incorrect application of concepts	88.9	11.1
12.	SS3 Physics students have the competence in shifting between different types of reasoning or perspectives when solving physics tasks	79.0	21.0
	The mean perception score on cognitive capability of 16 years old SS3 physics students	**85.5**	**14.30**

Source: Author's Analysis (2025).

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

However, slightly lower scores were observed in students' ability to transfer physics concepts to real-world situations (81.5 percent) and in interpreting scientific data (77.8 percent), suggesting areas for further improvement

A further assessment in context of affective capabilities also received favourable ratings, with 80.3 percent agreement on students' motivation and positive attitudes toward learning physics. Teachers highlighted students' curiosity (91.1 percent), motivation (88.9 percent), and interest (87.6 percent) as strong points. Nonetheless, persistence (71.5 percent), emotional regulation (76.5 percent), and anxiety management (74.1 percent) were identified as moderate concerns. Autonomy and self-management were acknowledged by 79.0 percent of teachers, though exam-related stress remains a significant issue.

Table 1b: Descriptive Analysis of Affective Capabilities of Physics Students

S/N	Items	Agree	Disagree
13	16 years old SS3 physics students are motivated to learn physics for the sake of knowledge, personal satisfaction, rewards such as grades, recognition, or future career goals on physics learning.	88.9	11.1
14	16 years old SS3 physics students have interest and curiosity in learning physics	91.1	9.1
17	16 years old SS3 physics students expressed positive attitude towards physics	87.6	12.3
18	16 years old SS3 physics students have the self-efficacy and competence to succeed in physics	84.0	16.0
19	16 years old SS3 physics students possess some degree of nervousness, stress, or fear when dealing with physics tasks or examinations.	74.1	25.9
20	16 years old SS3 physics students expressed persistent effort to face challenges and difficulties in physics	71.5	18.5
21	16 years old SS3 physics students display feeling of enjoyment when learning physics	74.1	25.9
22	16 years old SS3 physics students have the capacity to stay calm, emotionally stable, focused, and resilient when confronted with frustration in physics learning	76.5	23.5
24	16 years old SS3 physics students have autonomy and self-determination in setting personal learning goals and making decisions about how to approach physics learning.	76.5	23.5
25	SS3 physics students have competence in organizing study schedules and maintaining discipline in preparing for physics tasks and exams.	79.0	21.0
	The mean perception score on affective capability of 16 years old SS3 physics students	**80.3**	**18.7**

Source: Author's Analysis (2025).

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

Table 2: Descriptive Analysis of Demographic distribution of Physics Teachers

SN	Description	Findings
1	Academic Qualification	30.9% of the respondents had BSc Physics while 27.2% had BSc (Ed) Physics. 12.3% had Master degree in Physics while 3.2% had Masters in Physics Education. A total of 16 respondents, representing 19.8% bagged PhD degree in Physics while 6.2% had PhD degree in physics Education
2	Gender	71.6% of the respondents were male physics teachers while 28.4% respondents were female physics teachers.
3	Average age of SS1 Physics students	82.7% of the physics teachers claimed that SS1 physics students are within the age range of 13 – 14 years
4	Average age of SS2 Physics students	81.5% of the physics teachers believed that SS2 physics students are within the age range of 14 – 15 years
5	Average age of SS3 Physics students	86.5% of the physics teachers believed that SS3 physics students are within the age range of 15 – 16 years
6	Students' performance in WAEC physics in the past 3 years	87.7% of the physics teachers agreed that physics students' performance in WAEC physics in the past 3 years range between good and excellent.
7	Students' performance in NECO physics in the past 3 years	91.4% of the physics teachers agreed that physics students' performance in NECO physics in the past 3 years ranges between good and excellent.
8	School Ownership	75.3% of the respondents are physics teachers from private schools while the remaining 23.5 are from public secondary school
9	School Location	32.1% of the teachers are from the rural area while 67.9% are from the urban area

Source: Author's Analysis (2025).

Academically, 58.1% of the teachers hold a BSc or BSc (Ed) in Physics, 12.3% have a master's degree, and a notable 19.8% possess a PhD, reflecting a highly qualified pool of educators. This academic diversity suggests both strong subject-matter expertise and pedagogical depth. However, the gender distribution is heavily skewed, with 71.6% male and only 28.4% female, highlighting a need to promote gender balance in physics teaching roles. Teachers also reported consistent age patterns among students, aligning with formal education stages—SS1 students are mostly 13–14 years, while SS3 students are predominantly 15–16 years old. Most teachers rated student performance in WAEC (87.7%) and NECO (91.4%) as good or excellent, indicating confidence in students' academic capabilities.

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

Regarding school type, 75.3% of teachers are employed in private institutions, which may offer more resources and favourable class sizes. Geographically, 67.9% work in rural areas, emphasizing the importance of context in shaping perceptions. Rural schools often face resource limitations that may affect student support and learning conditions. Overall, the demographic data reflect a committed and skilled teaching workforce, while also identifying areas for policy attention, particularly in addressing gender gaps and rural-urban disparities in resource allocation.

Research Question 2: How has academic qualification influenced the perception of physics teachers on the cognitive and affective capabilities of 16 years old physics students?

Table 3: Descriptive Analysis of Teacher's Academic Qualifications

COG_PERC	N	Mean	Std. Deviation	Std. Error
B.sc Physics	25	22.5600	5.81005	1.16201
B.Ed. Physics	22	23.6818	6.39484	1.36338
PhD Physics Edu	5	19.2000	4.26615	1.90788
M.Sc. Physics	10	23.7000	6.09280	1.92671
M.Ed. Physics	3	22.3333	1.52753	.88192
PhD Physics	16	23.9375	5.13120	1.28280
Total	81	23.0617	5.68187	.63132

Source: Author's Analysis (2025).

The descriptive analysis of physics teachers' perceptions reveals that academic qualifications influence their views on students' cognitive capabilities. B.Sc. holders reported a moderate mean score (22.56), while B.Sc. (Ed) and M.Sc. holders recorded slightly higher means (23.68 and 23.70), indicating greater confidence. PhD holders in Physics had the highest mean (23.94), suggesting a strong belief in students' abilities, whereas PhD holders in Physics Education showed the lowest (19.20), possibly due to a more critical pedagogical lens or small sample size. M.Ed. holders recorded a mean of 22.33 with minimal variability.
On the whole, the combined mean score was 23.06, reflecting generally favourable perceptions, though the moderate standard deviation indicates diverse views. A clear pattern emerges: teachers with science-specialized degrees (M.Sc., PhD in Physics) tend to rate students more highly than those with education-focused qualifications. This may stem from different emphases—technical versus pedagogical—affecting how cognitive skills are judged.

The findings highlight the need to align subject expertise with pedagogical training in teacher development programs to support balanced and effective physics instruction.

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

Table 4: Descriptive analysis to Perception on Affective Capability based on academic qualifications

AFF_PERC	N	Mean	Std. Deviation
B.sc Physics	25	19.5600	3.79781
B.Ed. Physics	22	19.5455	5.24384
PhD Physics Education	5	17.0000	3.39116
M.Sc. Physics	10	22.2000	3.67575
M.Ed. Physics	3	18.3333	2.08167
PhD Physics	16	20.1250	4.24068
Total	81	19.7901	4.29743

Source: Author's Analysis (2025).

The analysis of teachers' perceptions based on academic qualifications reveals notable variations. Teachers with a B.Sc. in Physics (n = 25) had a mean score of 22.56, indicating moderate confidence in students' cognitive abilities, though responses varied widely. Those with a B.Ed. in Physics showed a slightly higher mean of 23.68, suggesting more favourable perceptions, but also greater inconsistency. Teachers with a PhD in Physics Education reported the lowest mean score (19.20), potentially reflecting a more critical pedagogical view, although the small sample size (n = 5) limits generalizability. M.Sc. Physics holders (n = 10) recorded a high mean of 23.70, comparable to the PhD in Physics group, which had the highest mean at 23.94. Both suggest strong confidence, likely due to their deep subject expertise. The M.Ed. Physics group (n = 3) had a consistent mean of 22.33, though limited by size. Overall, the average across all 81 participants was 23.06, with moderate variability, indicating generally positive perceptions of students' cognitive abilities. These results suggest that higher academic qualifications, particularly in pure physics, may lead to stronger perceptions of students' capabilities, underscoring the importance of integrating subject expertise with pedagogical training in teacher development programs.

4.1.3. Research Question 3:

In what ways has gender influenced the perception of physics teachers on the cognitive and affective capabilities of 16 years old SS3 physics students?

Table 5: Descriptive analysis of teachers' response to the cognitive and affective capabilities based on gender

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
COG_PE	Male	58	23.3621	5.25390	.68987
RC	Female	23	22.3043	6.71115	1.39937
AFF_PE	Male	58	20.1207	4.07852	.53554
RC	Female	23	18.9565	4.80036	1.00094

Source: Author's Analysis (2025).

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

The study reveals subtle gender-based differences in teachers' perceptions of students' cognitive and affective capabilities. Male physics teachers reported a slightly higher mean score (23.36) for cognitive abilities—such as reasoning and problem-solving—compared to 22.30 for female teachers, with female responses showing more variability. This suggests that male teachers may have a more optimistic view of students' intellectual potential. Similarly, in affective perceptions—covering motivation, interest, and emotional engagement—male teachers again scored higher (20.12) than female teachers (18.96), indicating they perceive students as more emotionally involved in learning physics. Standard deviations show male responses were slightly more consistent in both domains. These small but consistent differences may reflect varying teaching styles, expectations, or unconscious biases that influence how teachers interpret student behaviours. While the differences are not substantial, they highlight how gender may subtly shape perceptions of students' abilities. This has implications for teaching approaches and student support. Encouraging reflective practice and providing gender-sensitivity training through professional development can help teachers develop more balanced, equitable assessments of student potential, ultimately fostering inclusive and supportive learning environments for all learners.

4.1.4. Research Question 4:

In what way has school ownership (private and public) influenced the perception of physics teachers on the cognitive and affective capabilities of 16 years old physics students?

Table 6: Descriptive analysis of teachers' response to the cognitive and affective capabilities based on school ownership

Group Statistics

	School Ownership	N	Mean	Std. Deviation	Std. Error Mean
COG_PERC	Public	19	22.4737	4.85762	1.11441
	Private	61	23.1311	5.92023	.75801
AFF_PERC	Public	19	19.3684	4.00292	.91833
	Private	61	19.8689	4.42521	.56659

Source: Author's Analysis (2025).

The study shows slight differences in cognitive perceptions between private and public school physics teachers. Private school teachers reported a marginally higher mean score of 23.13, compared to 22.47 from public school teachers, indicating a slightly more positive view of students' reasoning and problem-solving abilities. The variation in responses was higher among private school teachers, suggesting more diverse perspectives. These small differences may reflect varying school environments or resources, though shared curriculum challenges could explain the similarity in perceptions. For affective perceptions, students' motivation, interest, and emotional engagement, public school teachers had a mean score of

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

19.37, indicating a moderate view while that of private school is 19.87. Overall, while cognitive perception differences between school types are minimal, the lack of affective data from private schools limits broader conclusions. These findings highlight the need for further research to explore how school ownership influences teacher perceptions. Better understanding these dynamics can support more targeted interventions to improve teaching effectiveness and student support in both public and private school settings.

4.1.5 Research Question 5: How does location of school (urban and rural) influence the perception of physics teachers on the cognitive and affective capabilities of 16 years old physics students?

Table 7: Descriptive Table of teachers' response to the cognitive and affective capabilities based on school location

Group Statistics

	School Location	N	Mean	Std. Deviation	Std. Error Mean
COG_PERC	Urban	26	24.4615	6.15942	1.20796
	Rural	55	22.4000	5.37346	.72456
AFF_PERC	Urban	26	21.3462	4.00941	.78631
	Rural	55	19.0545	4.26622	.57526

Source: Author's Analysis (2025).

The study reveals location-based differences in teachers' perceptions of students' cognitive and affective capabilities. Teachers in urban schools reported a higher mean cognitive perception score of 24.46, compared to 22.40 from rural teachers, suggesting they view their students as more capable in areas like problem-solving and analytical thinking. This difference may result from better access to resources, smaller class sizes, and enriched learning environments in urban settings. Urban teachers also reported higher affective perception scores (21.35) than rural teachers (19.05), indicating they see students as more motivated and emotionally engaged. These higher ratings may reflect improved student-teacher relationships, access to extracurricular activities, and a more supportive academic culture in urban schools. Standard deviations and errors across both settings show relatively consistent perceptions but highlight greater variation in urban responses. Overall, the findings suggest that urban environments may foster more positive teacher perceptions due to infrastructural and pedagogical advantages. However, these differences may also stem from teachers' expectations shaped by their teaching context. Addressing disparities in rural schools through better resources, training, and support systems is essential to promote equity in teaching and learning outcomes, and further research is recommended to understand and bridge these gaps.

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

Hypothesis 1: There is no significant difference in the perception of physics teachers regarding cognitive and affective capabilities of senior secondary school physics students based on academic qualifications.

Table 8: ANOVA Table on Cognitive Perception based on academic qualification

ANOVA					
COG_PERC	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	107.254	5	21.451	.650	.662
Within Groups	2475.437	75	33.006		
Total	2582.691	80			

Source: Author's Analysis (2025).

The ANOVA analysis examined differences in teachers' cognitive perception ("COG_PERC") scores across six academic qualification groups. The between-group variability (SS = 107.254, df = 5) had a mean square (MS) of 21.451, while the within-group variability was much higher (SS = 2475.437, df = 75), with an MS of 33.006. This indicates greater variation within groups than between them. The calculated F-statistic was 0.650, and the corresponding p-value was 0.662, exceeding the 0.05 significance threshold. Therefore, the null hypothesis was retained, suggesting no statistically significant difference in cognitive perception scores among the different qualification groups. These findings imply that academic qualification does not significantly influence how teachers perceive students' cognitive capabilities. The substantial within-group variability highlights that individual differences among teachers in the same qualification category play a larger role than differences between categories. This suggests that factors beyond academic qualification—such as teaching style, school environment, or personal beliefs—may more strongly shape teachers' perceptions. Overall, the results underscore the need to consider broader influences in understanding teacher perceptions and to look beyond qualification alone when addressing professional development and instructional effectiveness.

Table 8: ANOVA Table on Affective Perception based on academic qualification

ANOVA					
AFF_PERC	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	107.801	5	21.560	1.181	.327
Within Groups	1369.631	75	18.262		
Total	1477.432	80			

Source: Author's Analysis (2025).

The study tested the null hypothesis that academic qualification does not significantly influence teachers' perceptions of students' cognitive capabilities. Descriptive statistics showed slight differences in mean perception scores across qualifications. Teachers with a

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

PhD in Physics had the highest mean score (23.94), indicating a marginally more positive perception, while those with a PhD in Physics Education had the lowest (19.20), suggesting a slightly less favourable view. However, these differences were not substantial.

The ANOVA results confirmed this statistically. An F-value of 0.650 and a p-value of 0.662—well above the 0.05 significance level—indicate that the observed variations are not statistically significant. As a result, the null hypothesis is accepted: academic qualification does not significantly influence teachers' perceptions of students' cognitive abilities.

These findings imply that other factors, such as teaching experience, professional development, and school environment, may have a greater impact on shaping teacher perceptions. Therefore, educational policies and training initiatives should focus on addressing shared challenges across all qualification levels. Uniform support strategies aimed at improving teaching practices and learning outcomes would likely be more effective than tailoring interventions based solely on academic background. This approach promotes equity and strengthens overall instructional quality in physics education.

Hypothesis 2: Male and female physics teachers do not differ significantly in their perception of students' cognitive and affective capabilities of senior secondary school physics students

Table 9: Independent sample t-test table on cognitive and affective perception based on gender

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
COG_PERC	Equal variances assumed	5.077	.027	.753	79	.453	1.058	1.40389
	Equal variances not assumed			.678	33.24	.502	1.058	1.56018
AFF_PERC	Equal variances assumed	2.573	.113	1.101	79	.274	1.164	1.05755
	Equal variances not assumed			1.026	35.28	.312	1.164	1.13520

Source: Author's Analysis (2025).

For cognitive perception, male teachers (N=58) reported a slightly higher mean score (23.36) compared to female teachers (N=23), who had a mean of 22.30. The standard deviation was lower for males (SD=5.25) than for females (SD=6.71), suggesting that male teachers' responses were more consistent, while female teachers exhibited greater variability in their scores. Similarly, in affective perception, male teachers reported a higher mean score (20.12)

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

than female teachers (18.96). Both groups showed moderate variability in their scores, but females exhibited slightly more variability (SD=4.80) compared to males (SD=4.08).

Levene's Test for Equality of Variances further clarified these results. For cognitive perception (COG_PERC), the F-value was 5.077, with a significance value of p=0.027, indicating that variances between male and female teachers were not equal (significant at p<0.05). This necessitated using the t-test results for unequal variances to interpret the differences. In contrast, for affective perception (AFF_PERC), the F-value was 2.573 with a p-value of 0.113, indicating that variances between male and female teachers were equal (not significant at p<0.05). As a result, the t-test results for equal variances were used for interpretation.

Overall, these findings highlight subtle differences in how male and female physics teachers perceive students' cognitive and affective capabilities, with male teachers consistently reporting slightly higher mean scores. The implications of these findings warrant further exploration, particularly in understanding the underlying factors contributing to these gender-based differences and their potential impact on teaching practices and student outcomes.

Hypothesis 3:
There is no significant difference between the perception of public and private school physics teachers regarding students' cognitive and affective capabilities of senior secondary school physics students

Table 10: Independent sample t-test table on cognitive and affective perception based on ownership of schools

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Diff.	95% Confidence Interval	
									Lower	Upper
COG_PERC	Equal variances assumed	1.006	.319	-.440	78	.661	-.657	1.50	-3.64	2.32
	Equal variances not assumed			-.488	36.19	.629	-.658	1.35	-3.39	2.08
AFF_PERC	Equal variances assumed	.402	.528	-.440	78	.661	-.500	1.14	-2.77	1.77
	Equal variances not assumed			-.464	32.89	.646	-.501	1.08	-2.70	1.69

Source: Author's Analysis (2025).

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

The study examined differences in teachers' cognitive and affective perceptions based on school ownership. Public school teachers (N=19) had a mean cognitive perception score of 22.47, slightly lower than the 23.13 reported by private school teachers (N=61). Similarly, affective perception scores were 19.37 for public and 19.87 for private school teachers. While private school teachers showed slightly higher scores in both domains, variability in responses was moderate and similar across both groups. Public school teachers demonstrated more consistency in their responses, as indicated by lower standard deviations.

Levene's Test for Equality of Variances confirmed no significant differences in score variability between the groups. For cognitive perception, F=1.006 (p=0.319), and for affective perception, F=0.402 (p=0.528)—both p-values above 0.05, validating the use of equal variances in t-test analysis.

The findings suggest minimal perceptual differences between public and private school teachers. This highlights the need to look beyond school type and consider factors such as teaching conditions, resource availability, and professional development in understanding what shapes teachers' perceptions of students' cognitive and affective capabilities.

Hypothesis 4: Physics teachers in urban schools do not differ significantly in their perception of students' cognitive and affective capabilities of senior secondary school physics students compared to those in rural schools.

Table 11: Independent sample t-test of cognitive and affective perception based on school location

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
COG_PERC	Equal variances assumed	.010	.922	1.537	79	.128	2.06	1.341	-.61	4.73
	Equal variances not assumed			1.464	43.6	.150	2.06	1.408	-.78	4.90
AFF_PERC	Equal variances assumed	.749	.389	2.300	79	.024	2.29	.996	.31	4.28
	Equal variances not assumed			2.352	52.0	.022	2.29	.974	.34	4.25

Source: Author's Analysis (2025).

ALVAN JOURNAL OF SOCIAL SCIENCES (AJSS)
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2925

The analysis of teachers' cognitive and affective perceptions based on school location reveals mixed outcomes. For cognitive perception (COG_PERC), Levene's Test confirms equal variances ($F = 0.010$, $p = 0.922$), and the t-test result ($t = 1.537$, $p = 0.128$) shows no statistically significant difference between urban and rural teachers. This suggests that school location does not significantly affect how teachers perceive students' cognitive abilities, and the null hypothesis is retained.

However, for affective perception (AFF_PERC), while Levene's Test also confirms equal variances ($F = 0.749$, $p = 0.389$), the t-test result ($t = 2.300$, $p = 0.024$) indicates a statistically significant difference. Urban teachers reported more favourable perceptions of students' affective traits such as motivation and emotional engagement, compared to their rural counterparts, with a mean difference of 2.29. This finding suggests that location does play a role in shaping how teachers assess students' affective capabilities, likely influenced by environmental or resource-related factors.

4.2. Discussion of Findings

Many teachers view students below 18 years as cognitively capable, possessing strong problem-solving abilities, conceptual understanding, and the capacity to apply physics principles effectively. These competencies are foundational for success in physics, a subject that demands abstract thinking and analytical reasoning. This aligns with Piaget's theory of cognitive development, which posits that by adolescence (typically around 11 years and above), individuals enter the formal operational stage, characterized by the ability to think logically about abstract concepts (Piaget, 1952; Adeyemi & Yusuf, 2021).

However, teachers noted limitations in students' ability to transfer knowledge across disciplines and solve problems in unfamiliar contexts—skills associated with cognitive flexibility. These gaps highlight the need for pedagogical strategies such as interdisciplinary learning, project-based activities, and simulation-based instruction. Research supports these approaches, with Chang et al. (2022) and Akpan & Igwe (2020) emphasizing the benefits of active learning environments in fostering deeper cognitive engagement.

While students demonstrate high cognitive potential, enforcing an age benchmark of 18 years may not directly correlate with academic readiness. Younger students often show competence in structured academic settings but may require additional support to navigate complex, unfamiliar challenges. Thus, cognitive maturity should be considered alongside chronological age when setting examination policies.

On affective capabilities, teachers believed that students generally display strong interest and motivation in learning physics. However, concerns emerged regarding their emotional resilience, persistence, and stress management, particularly under high-pressure situations such as national exams. Teachers observed that students often experience anxiety and

difficulty regulating emotions during assessments. This observation aligns with Erikson's psychosocial theory, which underscores the significance of emotional stability during adolescence (stage of identity vs. role confusion).

Given this context, emotional readiness becomes a critical factor in determining when students are prepared for high-stakes examinations. Emotional immaturity can hinder performance, regardless of cognitive ability. Schools must, therefore, implement support systems that build emotional competence. Integrating Social and Emotional Learning (SEL) programs, as supported by Durlak et al. (2011), can enhance students' self-regulation, empathy, and stress management, leading to improved academic performance.

Moreover, the role of teachers is vital. Positive teacher-student interactions, peer mentoring, and constructive feedback are essential in fostering persistence and self-efficacy among students. By embedding emotional support within the school culture, students are better prepared to handle the academic and emotional demands of national assessments.

5.0. SUMMARY AND CONCLUSION

This study explored how teachers' qualifications, experience, gender, school type, and school location influence their perceptions of secondary school students' cognitive and affective capabilities, specifically in the context of physics education. Findings from descriptive and inferential analyses revealed generally positive perceptions among teachers, with mean scores reflecting confidence in students' problem-solving, analytical reasoning, motivation, and engagement.

Academic qualification showed minor differences in perception scores, with PhD Physics holders reporting the highest cognitive perception and PhD Physics Education holders the lowest. However, ANOVA results ($F = 0.650$, $p = 0.662$) confirmed that these differences were not statistically significant, suggesting academic qualification alone does not meaningfully shape teacher perceptions.

Gender differences were also minimal but consistent, with male teachers slightly more optimistic than female teachers in both cognitive and affective domains. Similarly, private school teachers reported slightly higher perception scores than public school teachers, but the differences were not significant.

In contrast, school location emerged as a significant factor in affective perceptions. Urban teachers reported more favourable views of students' motivation and emotional engagement than their rural counterparts ($t = 2.300$, $p = 0.024$), although no significant difference was found in cognitive perceptions based on location.

While academic qualification, gender, and school type showed limited influence on teacher perceptions, school location had a significant impact on affective evaluations. These findings suggest that contextual factors—such as access to resources, school environment, and student support systems—may play a more critical role than qualifications alone in shaping teacher perceptions.

The study suggests that while students below 18 years may demonstrate strong cognitive capabilities, affective readiness is equally important. Rather than relying solely on age as a benchmark for WAEC, NECO, and UTME participation, policymakers should adopt a more holistic approach by considering both cognitive development and emotional maturity. This would ensure that students are not only intellectually prepared but also emotionally resilient to succeed in their academic pursuits.

Competing Interest

The author declares that no conflicting interest exist this paper.

REFERENCES

Adebayo, T., & Salami, K. (2021). Revisiting age-related admission policies in Nigeria's higher education system. *Journal of Contemporary Educational Policy*, *15*(2), 89–102.

Adeyemi, A. O., & Yusuf, M. A. (2021). Teachers' perceptions of cognitive readiness among Nigerian secondary school students. *Nigerian Journal of Educational Psychology*, *19*(2), 45–57.

Adeyemi, A. (2023). Age and academic performance: Reassessing readiness in Nigerian secondary education. *Journal of African Educational Policy*, *14*(2), 67–78.

Akinlolu, M., & Eze, F. (2024). Evaluating the impact of age restrictions on university admissions in Nigeria: A policy analysis. *Nigerian Journal of Educational Leadership*, *9*(1), 55–68.

Akinlolu, M., & Eze, F. (2024). Evaluating the impact of age restrictions on university admissions in Nigeria: A policy analysis. *Nigerian Journal of Educational Leadership*, *9*(1), 55–68.

Allen, K., Pianta, R. C., Gregory, A., Mikami, A. Y., & Lun, J. (2018). Social-emotional learning and the development of cognitive and affective skills in adolescents: A review of educational psychology perspectives. *Educational Psychologist, 53*(3), 185–203. https://doi.org/10.1080/00461520.2018.1479640

Akpan, B. E., & Igwe, C. O. (2020). Teacher experience and perception of student readiness for external examinations in Nigerian secondary schools. *International Journal of Educational Research in Africa*, *8*(2), 45–59.

Akpan, S. M., & Igwe, C. O. (2020). Enhancing cognitive flexibility through interdisciplinary learning in Nigerian secondary schools. *Journal of Curriculum and Instructional Innovation, 8*(1), 71–82.

Anderson, L. W., & Krathwohl, D. R. (Eds.). (2016). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Pearson Education. (Original work published 2001)

Cheetahs Policy Institute. (2024). *Reforming Nigeria's education system: Bridging equity and academic excellence*. Abuja: Cheetahs Policy Press.

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science, 24*(2), 97 – 140. https://doi.org/10.1080/10888691.2018.1537791

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.

Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: W. W. Norton & Company.

Fadokun, J. (2024). Age benchmarks in education: Between policy and practicality in Nigeria. *West African Journal of Education and Society, 11*(1), 33 – 47.

Federal Ministry of Education. (2023). *Policy directive on age eligibility for national examinations*. Abuja: Government Press.

Ibrahim, S. A. (2023). Cognitive readiness versus chronological age: Rethinking Nigeria's 18-year examination rule. *African Educational Review, 11*(3), 101–115.

Ikuerowo, T. A. (2025). Age and academic readiness: Reconsidering the 18-year benchmark in Nigeria's examination policies. *Journal of Educational Development and Policy, 14*(1), 22–37.

JAMB. (2023). *Revised guidelines for UTME registration and age verification procedures*. Abuja: Joint Admissions and Matriculation Board.

Obioma, G., & Salau, M. (2019). Determinants of teacher perception and student academic outcomes in Nigerian secondary education. *Nigerian Journal of Educational Psychology, 10*(1), 77–93.

Obioma, G., & Salau, M. (2019). Teachers' instructional practices and students' academic adaptability in science subjects. *Nigerian Journal of Educational Research and Evaluation, 18*(2), 103–115.

OECD. (2018). *Education at a glance 2018: OECD indicators*. Paris: Organisation for Economic Co- operation and Development.

Ogunlade, T. A., & Aremu, A. O. (2021). Academic performance and age-related maturity: A study of Nigerian senior secondary school science students. *International Journal of Science Education in Africa*, *6*(2), 89–101.

Ogunyemi, B. (2019). Age and academic readiness: Rethinking the SSCE entry policy in Nigeria. *Nigerian Journal of Educational Research and Evaluation*, *18*(1), 72–85.

Okoye, R., & Abiodun, A. (2017). Historical evolution of Nigeria's examination policies: A critical analysis of WAEC's role since 1952. *Journal of Educational Policy and History*, *9*(2), 45–58.

Olaniran, M. K. (2024). Standardization versus flexibility: An empirical review of Nigeria's age policy in secondary education. *African Journal of Educational Reforms*, *9*(3), 41–55.

Piaget, J. (1952). *The origins of intelligence in children*. International Universities Press. (Translated by Margaret Cook)

Punch Newspaper. (2024, August). *Education minister reaffirms 18-year age policy for national exams*. Punch Nigeria

Sahlberg, P. (2015). *Finnish lessons 2.0: What can the world learn from educational change in Finland?* New York: Teachers College Press.

Sarumi, K. O. (2024). *Teachers' perceptions and educational policy in Nigeria: Towards data- informed decision-making*. Lagos: National Education Think-Tank Series.

Shubina, I., & Kulakli, A. (2019). Assessment of affective learning in education: A review of research methods and tools. *Contemporary Educational Technology*, *10*(2), 120–133. https://doi.org/10.30935/cet.554450

UNESCO. (2022). *Education for all global monitoring report: Addressing inequity in Nigerian education systems*. Paris: United Nations Educational, Scientific and Cultural Organization.

UNESCO. (2023). *Equity and inclusion in education: Global monitoring report*. Paris: United Nations Educational, Scientific and Cultural Organization.

Umar, M., & Gambo, L. (2024). Challenges of enforcing national education policies in low-resource schools in Nigeria. *International Journal of African Educational Development*, *7*(1), 33–47.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.). Harvard University Press.

Yusuf, K., & Olatunji, M. (2020). Assessment reforms in Nigerian secondary education: NECO and the politics of inclusion. *African Journal of Educational Assessment*, *12*(4), 101–115.