

Navigating career paths: An exploration of factors shaping Chemistry Education Students' career choices in Ekiti State, Nigeria

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ABSTRACT: This study explores the factors influencing the career choices of Chemistry Education students at the Federal University Oye Ekiti (FUOYE), Ekiti State, Nigeria. Career esteem, which refers to the sense of self-worth, respect, and confidence derived from one's professional life, is believed to positively correlate with occupational congruence and to moderate the relationship between congruence and career satisfaction. In Nigeria, teaching is often perceived as a last resort rather than a preferred career path, particularly among school-age children. The research focuses on understanding the underlying factors that shape the decision to pursue Chemistry Education as a course of study. A sample of 150 students from various academic levels participated in the study, with data collected through a structured survey questionnaire. Descriptive and inferential statistics were employed for data analysis. The findings reveal that poor performance in the Joint Admissions and Matriculation Board (JAMB) exams significantly influenced students' choice of Chemistry Education, as many students opted for the course due to their inability to meet the cut-off points for more preferred programs such as Medicine, Nursing, and Engineering. Furthermore, a lack of interest in teaching chemistry and the abstract nature of the subject at the secondary school level were key factors in students' career decisions. The study suggests that enhancing students' engagement with practical chemistry activities and promoting teaching as a prestigious career could improve career esteem. Additionally, government support through improved infrastructure and resources could further strengthen the quality of chemistry education in Nigeria.

Keywords: Choice of career, esteem, FUOYE, teaching, tertiary institution.

INTRODUCTION

Career esteem refers to the degree of value, pride, and respect individuals attach to their chosen profession, which substantially shapes their personal fulfilment and professional performance. It represents an integral aspect of career development, encompassing both the internal sense of self-worth and the external social validation individuals derive from their occupational roles (Marciniak *et al.*, 2022). A high level of career esteem contributes to stronger professional identity formation, greater job satisfaction, and long-term motivation (Feldt *et al.*, 2021). Conversely, low career esteem may result in diminished

productivity, disengagement, and high attrition rates.

In many societies, including Nigeria, teaching has historically been perceived as a low-prestige profession, often considered a fallback option for individuals unable to gain employment in more "desirable" sectors (Lawal, 2012; Egwu, 2015). This perception contrasts sharply with the pivotal role teachers play in shaping the intellectual and moral foundations of nations. Teaching is not merely a profession—it is a vocation that directly influences social progress, economic development, and human capital formation. Hence, elevating the societal perception of

teaching is vital for attracting and retaining talented individuals and for cultivating higher levels of career esteem within the profession (Billett, 2014).

A career, broadly defined, represents a sequence of work-related experiences and commitments pursued throughout one's lifetime, reflecting individual aspirations, competencies, and values. Esteem, by contrast, implies the value one assigns to something considered worthy or honourable. Thus, *career esteem* denotes the self-respect, recognition, and sense of worth individuals attach to their profession, often rooted in self-confidence and intrinsic motivation. As Hui *et al.* (2018) assert, individuals who possess strong self-worth are better equipped to make fulfilling career choices, trust their capabilities, and achieve higher levels of professional accomplishment.

Career decision-making is inherently multifactorial, shaped by personal interests, cognitive abilities, environmental contexts, and socio-cultural influences (Braza and Guillo, 2015; Durosaro and Adebanye, 2012). In the Nigerian context, however, students often face a complex interplay of constraints, including limited career guidance, parental expectations, and structural inequities within the education system (Edwards and Quinter, 2017). These factors frequently result in career misalignment, underemployment, and dissatisfaction—issues that have long-term implications for both individual welfare and national development (Akinola and Akanbi, 2017).

Within the 6-3-3-4 educational framework, Nigeria's secondary education is designed to provide students with broad literacy, numeracy, and communication skills to prepare them for higher education and professional life. Nonetheless, the absence of effective career counselling and the prevalence of examination-oriented learning environments have hindered students' ability to make informed and purpose-driven career choices.

Chemistry, as a core scientific discipline, plays a crucial role in advancing global technological innovation, sustainability, and human welfare. It bridges the physical and life sciences, underpinning developments in medicine, agriculture, energy, and environmental protection (Solano *et al.*, 2011; Avargil *et al.*, 2020). Yet, despite its global importance, there has been a steady decline in the number of Nigerian students opting for Chemistry Education as a field of study. This downward trend exacerbates the shortage of qualified chemistry teachers, limiting the nation's capacity to produce scientifically literate citizens and future innovators (Etimane, 2023).

Admission into tertiary education programs in Nigeria, including Chemistry Education, is largely determined by the Unified Tertiary Matriculation Examination (UTME) administered by the Joint Admissions and Matriculation Board (JAMB). Empirical observations suggest that Chemistry Education often attracts students with lower UTME scores, many of whom did not gain admission into their first-choice programs (Ogunode, 2025). This dynamic reflects not only the broader devaluation of teaching but also systemic issues in student motivation and institutional

support for science education.

This study is situated within the B.Sc. (Ed) Chemistry program at the Federal University Oye-Ekiti (FUOYE), whose mandate aligns with the National Policy on Education to produce competent, innovative, and reflective chemistry educators. However, the career pathways of these students are often shaped by factors beyond academic interest—such as parental influence, peer dynamics, and institutional culture (Dodge and Welderufael, 2014).

While international research has explored the determinants of career choice across various contexts (Borchert, 2002; Shwartz *et al.*, 2021; Fernandes & Rawatlal, 2024), there remains limited empirical evidence on the specific factors influencing Chemistry Education students in Nigeria. This study addresses that gap by examining how teacher influence, parental guidance, student interests, and UTME performance affect the choice of Chemistry Education as a career among FUOYE students.

LITERATURE REVIEW

Career esteem and teaching as a profession

Career esteem plays a decisive role in determining job satisfaction, productivity, and professional identity. It embodies the pride and value individuals associate with their occupation, which in turn influences motivation and performance (Marciniak *et al.*, 2022). In teaching, career esteem is particularly tied to both societal recognition and intrinsic professional self-worth. Globally, teaching is regarded as a cornerstone profession for quality education and national development; however, teachers in many contexts continue to experience poor professional status, inadequate remuneration, and weak working conditions, which reduce the social prestige and attractiveness of the profession (UNESCO & International Task Force on Teachers for Education 2030, 2021; UNESCO, 2014).

In Nigeria, the perception of teaching as a "last resort" career has adversely affected teacher morale and recruitment (Lawal, 2012; Egwu, 2015). This societal undervaluation undermines teachers' sense of purpose, even though they play an indispensable role in preparing the workforce and sustaining knowledge economies. Improving teachers' career esteem therefore requires deliberate policy interventions aimed at professional recognition, better remuneration, and public reorientation toward the dignity of the teaching profession (UNESCO, 2014).

Self-worth and confidence underpin career esteem. Individuals with high self-efficacy are more likely to pursue and excel in careers that align with their interests and values (Hui *et al.*, 2018). In educational contexts, teachers who possess strong professional self-concepts are better able to inspire students and model excellence. Hence,

fostering career esteem in teaching not only enhances teacher retention and performance but also improves student outcomes and overall educational quality (Feldt *et al.*, 2021).

Determinants of career choice

Career choice is a multifaceted process influenced by personal attributes, social contexts, and environmental opportunities. Scholars such as Braza and Guillo (2015) and Durosaro and Adebanye (2012) highlight the interaction between intrinsic motivations (interests, aptitude) and extrinsic pressures (parental expectations, socioeconomic constraints) in shaping students' career decisions.

In Nigeria, the absence of structured career counselling programs and limited access to mentorship frequently lead students to make uninformed choices (Edwards & Quinter, 2017). Many students rely on external pressures, particularly from parents or peers, rather than aligning their career paths with personal interests and capabilities (Owusu *et al.*, 2021). Such misalignments contribute to underperformance, frustration, and attrition in tertiary education programs. Addressing this issue requires comprehensive career guidance integrated into the secondary school curriculum, coupled with stronger institutional support for student self-discovery.

Chemistry as a discipline and career path

Chemistry is central to addressing global challenges in health, agriculture, industry, and environmental sustainability. It enables innovation in pharmaceuticals, renewable energy, and material sciences (Avargil *et al.*, 2020). However, the discipline's perceived complexity and abstractness often discourage students from pursuing it at advanced levels (Anaekwe, 2021).

In Nigeria, this challenge is compounded by inadequate laboratory facilities, insufficiently trained teachers, and a curriculum that emphasises rote memorisation over practical application. These conditions contribute to the declining enrollment in Chemistry Education programs and a consequent shortage of qualified teachers (Etimane, 2023). Furthermore, the UTME-based admission process tends to channel lower-performing candidates into education programs, inadvertently reinforcing the notion that teaching, particularly in the sciences, is a secondary career option (Ogunode, 2025).

Role of teachers, parents, and educational environments

Teachers can serve as significant role models who shape students' science-related self-efficacy, interests, and career aspirations; however, studies on chemistry and STEM career choice show that teacher influence may be weaker than family, peers, career information, remunera-

tion, and the perceived status of the teaching profession in some contexts (Reinhold *et al.*, 2018; Avargil *et al.*, 2020; Shwartz *et al.*, 2021).

Parental influence is another dominant factor shaping students' educational pathways. Parents often serve as decision-makers or gatekeepers, guiding or pressuring their children toward certain professions (Fernandes and Rawatlal, 2024). In Nigeria, this influence is further amplified by cultural and economic factors that equate professional prestige with financial stability (Edwards & Quinter, 2017).

Educational environments, comprising school resources, peer interactions, and institutional culture, also play critical roles. A supportive environment that fosters curiosity, innovation, and self-expression can significantly enhance students' motivation to pursue careers aligned with their interests (Dodge and Welderufael, 2014).

Although prior international studies (e.g., Borchert, 2002; Shwartz *et al.*, 2021; Fernandes and Rawatlal, 2024) have identified personality, opportunity, and environmental factors as key determinants of career choice, limited empirical work has examined these variables within the Nigerian context, particularly regarding Chemistry Education. Understanding these localized influences is essential for developing strategies to attract and retain students in science education programs.

The present study therefore investigates the factors influencing students' choice of Chemistry Education as a career at the Federal University Oye-Ekiti (FUOYE). Specifically, it examines how teacher influence, parental guidance, student interests, and UTME performance shape these career decisions. The outcomes of this study are expected to inform policies and practices aimed at enhancing Chemistry Education enrollment and strengthening Nigeria's science education workforce.

Objectives of the study

The general objective of this study is to identify the factors influencing the choice of Chemistry Education as a career among tertiary institution students in Ekiti State, Nigeria. The specific objectives are:

1. To examine the influence of Chemistry teachers on students' career choices in Chemistry Education at FUOYE.
2. To assess the role of parents in students' career decisions in Chemistry Education at FUOYE.
3. To investigate how students' interests and academic goals affect their career choices in Chemistry Education at FUOYE.
4. To determine the impact of UTME scores on students' career choices in Chemistry Education at FUOYE.

Research questions

1. What influence do Chemistry teachers have on

students' career choices in Chemistry Education at FUOYE?

2. How do parents affect students' career choices in Chemistry Education at FUOYE?
3. What role do students' interests and academic goals play in their career decisions in Chemistry Education at FUOYE?
4. Does UTME performance influence students' career choices in Chemistry Education at FUOYE?

Research hypotheses

The following null hypotheses guide the study:

H₀₁: Chemistry teachers do not significantly influence students' career choices in Chemistry Education at FUOYE.

H₀₂: Parents do not significantly influence students' career decisions in Chemistry Education at FUOYE.

H₀₃: Students' interests and academic goals do not significantly affect their career choices in Chemistry Education at FUOYE.

H₀₄: UTME scores do not significantly influence students' career choices in Chemistry Education at FUOYE.

METHODOLOGY

Research design

This study adopted a descriptive research design to explore the factors influencing the career choices of Chemistry Education students at the Federal University Oye-Ekiti (FUOYE), Ekiti State. The descriptive research design was chosen because it allows for the collection of detailed and comprehensive data on students' perceptions, attitudes, and experiences (Creswell, 2014). This approach is effective for capturing and analyzing students' views on the factors that shape their career choices, such as the influence of teachers, parents, personal interest, and academic goals (Babbie, 2013). The descriptive design also facilitates the identification of patterns and relationships among the variables being studied, making it ideal for this exploratory research. This study uses this approach to understand the existing beliefs and perceptions of Chemistry Education students regarding their career paths and the factors that influence these decisions.

Population and sampling

The population for this study consisted of all Chemistry Education students in the Department of Science Education at FUOYE during the 2022/2023 academic session. The total population of Chemistry Education

students across the 100, 200, 300, and 400 levels was 224. A purposive sampling technique was used to select a sample of 150 students. The purposive sampling method was chosen to ensure that the sample represented a significant portion of the student cohort, with participants from various academic levels (100 to 400 levels). This approach allowed for an in-depth exploration of the factors influencing career choices at different stages of students' academic journeys (Cohen *et al.*, 2002).

Research instrument

The primary instrument used for data collection was a structured questionnaire, designed specifically for this study. The questionnaire, titled *Questionnaire on Factors Affecting Career Choice of Chemistry Education (QFACCE)*, was developed to gather detailed information on the factors influencing students' career choices in Chemistry Education. The instrument was divided into two sections:

- **Section A:** Demographic Information, which included questions on age, gender, academic level, and other relevant background details.
- **Section B:** Career Choice Factors, which included 20 structured statements about the factors influencing students' career decisions. Respondents were asked to indicate their level of agreement or disagreement using a 4-point Likert scale (Strongly Agree, Agree, Disagree, Strongly Disagree).

Reliability of the questionnaire

To ensure the reliability of the QFACCE, a pilot study was conducted among 30 students from the Department of Science Education at a different university in Ekiti State. The pilot test aimed to assess the clarity, comprehension, and consistency of the questionnaire items. The reliability of the instrument was tested using Cronbach's Alpha, which is a commonly used statistic for measuring internal consistency (Tavakol and Dennick, 2011). The pilot study yielded a Cronbach's Alpha value of 0.85, indicating a high level of internal consistency and suggesting that the questionnaire was reliable for use in the main study.

Data collection procedure

The researcher obtained permission from the Department of Science Education at FUOYE to conduct the study. This included securing ethical approval and ensuring that students' participation was voluntary and informed. A total of 150 questionnaires were distributed to students at FUOYE across the 200, 300, and 400 levels within the Faculty of Education. The questionnaires were administered

directly by the researcher to ensure clarity of instructions and uniformity in the data collection process. Students completed the questionnaires in the presence of the researcher, which ensured that any questions about the items were clarified immediately. The completed questionnaires were collected on the same day to prevent data loss or misplacement, ensuring a high response rate.

Data analysis

The data collected from the questionnaires were analyzed using both descriptive and inferential statistical methods. Descriptive statistics, including frequencies, percentages, and means, were used to summarize the demographic characteristics of the participants and their responses to the questionnaire items. This approach allowed for an overview of the key trends and patterns related to career choice factors. For inferential analysis, Pearson's correlation was employed to test the relationships between the identified factors (such as the influence of Chemistry teachers, parental influence, students' academic goals, and UTME scores) and students' career choices in Chemistry Education. Pearson's correlation was chosen because it assesses the strength and direction of the relationship between two continuous variables (Field, 2013). A significance level of $p < 0.05$ was used for all tests. This analysis was performed to determine whether the factors under investigation had statistically significant relationships with the career decisions of students in Chemistry Education at FUOYE.

Ethical considerations

In accordance with ethical research practices, the study ensured that all participants provided informed consent. Participants were briefed on the purpose of the study, their voluntary participation, and their right to withdraw at any point without penalty. Confidentiality was maintained throughout the study, and participants were assured that their responses would be used solely for academic purposes.

RESULTS

Research Question 1: What influence do chemistry teachers have on students' choice of career in chemistry education among students in FUOYE?

Table 1 illustrates chemistry education students' responses regarding the influence of chemistry teachers on their choice of career. A significant proportion (68%) of students agreed or strongly agreed that their love for chemistry in secondary school influenced their decision to pursue chemistry education, while 32% disagreed or

strongly disagreed. Similarly, 66.7% of the respondents affirmed that their chemistry teacher's method of teaching had a positive impact on their choice, with 33.3% dissenting. Furthermore, 61.3% of students acknowledged that their chemistry teacher improved their interest in becoming a chemistry teacher, while 38.7% refuted this claim. Lastly, 72% expressed a desire to emulate their secondary school chemistry teacher, while 28% were not influenced by their chemistry teacher's example.

Research Question 2: What influence do parents exert on students' choice of career in chemistry education among students in FUOYE?

Table 2 reveals the impact of parental factors on students' career choices. Only 14.7% of students agreed or strongly agreed that their parents forced them to choose chemistry education, while a significant 85.3% disagreed. Regarding parental influence as teachers, 38.7% of respondents acknowledged being inspired by their parents' profession, while 61.3% denied any such influence. Moreover, 66.7% of students agreed or strongly agreed that cultural and traditional values related to family roles influenced their choice, whereas 33.3% disagreed.

Research Question 3: How do students' interest and academic goals affect their choice of career in chemistry education among students in FUOYE?

Table 3 highlights students' interest and academic abilities as key factors influencing their career choices. About 66.7% expressed interest in chemistry education, with 33.3% lacking such interest. A substantial 72% chose chemistry education as their first choice, while 28% did not. Notably, 81.3% found teaching chemistry to be fun and inspiring. A majority (68%) also claimed their love for teaching influenced their decision, while 58.7% viewed teaching as their preferred profession. Chemistry being their best subject in secondary school was affirmed by 80%. Regarding academic goals, 64% indicated that teaching and disseminating knowledge comes easily to them, while 58.7% expressed a willingness to further their studies in the field.

Research Question 4: Do UTME scores influence students' choice of chemistry education among students in FUOYE?

Table 4 explores the influence of UTME performance on students' choice. A majority (60%) acknowledged being placed in chemistry education due to low UTME scores, while 40% refuted this claim. Exactly 50% reported selecting chemistry education as their first choice, while the other half disagreed. Notably, 80% admitted changing

Table 1. Responses to chemistry teacher-related factors.

S/N	Statement	SA (%)	A (%)	D (%)	SD (%)
1	I loved chemistry in secondary school, so I chose chemistry education	40 (26.7)	62 (41.3)	30 (20.0)	18 (12.0)
2	I loved my chemistry teacher's method of teaching back in secondary school, so I chose chemistry education	54 (36.0)	46 (30.7)	24 (16.0)	26 (17.3)
3	My chemistry teacher in secondary school helped me improve my interest in becoming a chemistry teacher	30 (20.0)	62 (41.3)	28 (18.7)	30 (20.0)
4	I simply love to be like my chemistry teacher in secondary school	50 (33.3)	58 (38.7)	20 (13.3)	22 (14.7)

Table 2. Responses to parent-related factors.

S/N	Statement	SA (%)	A (%)	D (%)	SD (%)
1	My parents forced me to choose chemistry education as a course of study	10 (6.7)	12 (8.0)	68 (45.3)	60 (40.0)
2	I want to become a chemistry teacher because my parents are teachers	30 (20.0)	28 (18.7)	56 (37.3)	36 (24.0)
3	My most cherished traditional and cultural value is family, so I chose an education-related course to fit the life role of a parent	40 (26.7)	60 (40.0)	28 (18.7)	22 (14.6)

Table 3. Responses to factors on students' interest and academic abilities.

S/N	Statement	SA (%)	A (%)	D (%)	SD (%)
1	I have interest in chemistry education as a course of study	30 (20.0)	70 (46.7)	28 (18.7)	22 (14.6)
2	I purposely chose chemistry education as my first choice of course	50 (33.3)	58 (38.7)	26 (17.3)	16 (10.7)
3	I love chemistry in secondary school, so I chose to become a chemistry teacher	46 (30.7)	52 (34.7)	30 (20.0)	22 (14.6)
4	Teaching chemistry is fun, interesting, and inspiring to me	62 (41.3)	60 (40.0)	16 (10.7)	12 (8.0)
5	I chose chemistry education because I love teaching chemistry	34 (22.7)	68 (45.3)	28 (18.7)	20 (13.3)
6	I simply love teaching as a profession, so I chose chemistry education	40 (26.7)	48 (32.0)	28 (18.7)	34 (22.6)
7	Chemistry was my best subject in secondary school	50 (33.3)	70 (46.7)	20 (13.3)	10 (6.7)
8	I'm very good at chemistry, so I chose to become a chemistry teacher	40 (26.7)	40 (26.7)	36 (24.0)	34 (22.6)
9	Teaching and disseminating knowledge come easily to me, so I chose chemistry education	50 (33.3)	46 (30.7)	28 (18.7)	26 (17.3)
10	I'm willing to further my studies in chemistry education	30 (20.0)	58 (38.7)	32 (21.3)	30 (20.0)

Table 4. Responses on the influence of UTME performance.

S/N	Statement	SA (%)	A (%)	D (%)	SD (%)
1	I was given chemistry education because of my low UTME score	48 (32.0)	42 (28.0)	32 (21.3)	28 (18.7)
2	I chose chemistry education as my first choice of course in FUOYE	30 (20.0)	45 (30.0)	50 (33.3)	25 (16.7)
3	I had to do a change of course to chemistry education because my UTME score didn't meet the cut-off point for my preferred course	55 (36.7)	65 (43.3)	10 (6.7)	20 (13.3)

their course to chemistry education because their UTME score did not meet the cut-off for their preferred program.

Testing of hypotheses

Hypothesis 1: Chemistry teachers exert no influence on students' choice of career in chemistry education among students in FUOYE

The computed r-value (0.720) in Table 5 is significant at $p < 0.05$, leading to the rejection of the null hypothesis. This finding indicates that chemistry teachers have a significant

influence on students' choice of pursuing a career in chemistry education at FUOYE. The results highlight the critical role of chemistry teachers in shaping students' career decisions.

Hypothesis 2: Parents exert no influence on students' choice of chemistry education as a career among students in FUOYE

The computed r-value (0.439) in Table 6 is not significant at $p < 0.05$. Therefore, the null hypothesis is accepted, indicating no significant relationship between parental

Table 5. Pearson correlation of chemistry teacher's influence on students' choice of career in chemistry education.

Variable	N	Mean	SD	r	p
Influence of chemistry teacher	150	23.30	2.49	0.720*	0.000
Students' choice of career	150	21.86	2.52		

*p < 0.05

Table 6. Pearson correlation of parental influence on students' choice of career in chemistry education.

Variable	N	Mean	SD	r	p
Parental influence	150	18.30	1.56	0.439	0.060
Students' choice of career	150	26.53	1.95		

*p < 0.05.

Table 7. Pearson correlation between students' interest, academic abilities, and career aspiration in chemistry education.

Variable	N	Mean	SD	r	p
Students' interest, academic abilities, and career aspirations	150	23.20	1.76	0.607*	0.000
Students' choice of career	150	22.53	1.56		

*p < 0.05.

Table 8. Pearson correlation between UTME scores and students' choice of career in chemistry education.

Variable	N	Mean	SD	r	p
UTME scores	150	24.20	2.36	0.807*	0.000
Students' choice of career	150	22.43	2.17		

*p < 0.05.

influence and students' choice of pursuing chemistry education as a career in FUOYE. The results suggest that parents do not exert a considerable influence on the career choices of chemistry education students.

Hypothesis 3: Students' interest and personal academic goals exert no significant influence on FUOYE chemistry education students' career choices

Table 7 shows that the computed r-value (0.607) is significant at $p < 0.05$, resulting in the rejection of the null hypothesis. This implies a significant relationship between students' interest, personal academic goals, and their choice of chemistry education as a career. The findings underscore the importance of intrinsic motivation and personal academic aspirations in influencing students' career decisions.

Hypothesis 4: UTME scores have no significant influence on students' choice of career in chemistry education among students in FUOYE

The computed r-value (0.807) in Table 8 is significant at p

< 0.05 , leading to the rejection of the null hypothesis. This result indicates a strong relationship between UTME scores and students' choice of career in chemistry education at FUOYE. It suggests that UTME scores significantly influence students' decisions to pursue chemistry education, with lower scores potentially steering students toward this field.

DISCUSSION

Influence of chemistry teachers on students' career choice

The findings revealed that Chemistry teachers significantly influenced students' choice of Chemistry Education as a career. A majority of the respondents indicated that their love for Chemistry in secondary school, their teachers' teaching methods, and their desire to emulate their Chemistry teachers contributed to their career decisions. The Pearson correlation results also showed a strong and significant relationship between Chemistry teachers' influence and students' choice of Chemistry Education, with $r = 0.720$, $p < 0.05$. This led to the rejection of the null hypothesis that Chemistry teachers do not significantly

influence students' career choices in Chemistry Education.

This finding is consistent with the literature, which identifies teachers as important agents in shaping students' academic interests, self-efficacy, and career aspirations. Reinhold *et al.* (2018) observed that school experiences and teacher-related factors can encourage students' orientation toward science careers. Similarly, Shwartz *et al.* (2021) found that teachers can influence students' choice of Chemistry and Chemistry-related careers by providing encouragement, guidance, and positive learning experiences. The present finding also supports Avargil *et al.* (2020), who showed that students' perceptions of Chemistry as a major and career are shaped partly by their learning experiences and exposure to Chemistry-related career possibilities.

The result suggests that Chemistry teachers who adopt engaging, practical, and student-centred teaching methods can inspire students to view Chemistry Education as a meaningful career path. This is particularly important because Chemistry is often perceived as abstract and difficult at the secondary school level (Anaekwe, 2021). When teachers make Chemistry understandable, practical, and relevant to daily life, students are more likely to develop positive attitudes toward the subject and consider pursuing a career in teaching Chemistry. The finding therefore highlights the need to strengthen the pedagogical and mentoring roles of Chemistry teachers. Beyond content delivery, Chemistry teachers should be trained to serve as career mentors who expose students to the intellectual, social, and professional value of Chemistry Education.

Influence of parents on students' career choice

The study found that parental influence did not have a statistically significant relationship with students' choice of Chemistry Education as a career. Although 66.7% of respondents agreed that cultural and traditional family values influenced their choice of an education-related course, only 14.7% reported that their parents forced them to choose Chemistry Education. In addition, only 38.7% indicated that they were influenced by parents who were teachers. The Pearson correlation result, $r = 0.439$, $p > 0.05$, showed that parental influence was not significant, leading to the acceptance of the null hypothesis.

This finding partly contrasts with previous studies that emphasise the importance of parents in students' career decisions. Owusu *et al.* (2021) found that parents, peers, and teachers can influence students' career aspirations. Fernandes and Rawatlal (2024) also reported that family background and parental expectations can shape students' career decision-making. In many African contexts, parents often act as advisers, sponsors, and gatekeepers in educational decisions. However, the results of the present study suggest that parents may not be the dominant factor in the specific choice of Chemistry Education among

FUOYE students.

One possible explanation is that many students at the university level have already developed stronger personal preferences and academic goals than they had at the secondary school level. Another explanation is that parental influence may be indirect rather than direct. For example, students may be shaped by family values, socioeconomic realities, or cultural expectations without being explicitly forced by their parents to choose a particular course. This interpretation is consistent with Edwards and Quinter (2011), who argued that career decisions are shaped by a combination of family, school, peer, and economic factors. Therefore, while parental influence was not statistically significant in this study, parents may still play a background role in students' broader educational aspirations.

The finding also suggests a changing pattern in students' career decision-making. Students may increasingly rely on personal interest, admission opportunities, and institutional placement rather than direct parental instruction. This has implications for career guidance. Parents should still be included in career education programmes, but universities and secondary schools should not assume that parental pressure is always the major determinant of students' course choices.

Influence of students' interest and academic goals

The findings showed that students' interest and academic goals significantly influenced their choice of Chemistry Education. A majority of the respondents reported that they had interest in Chemistry Education, enjoyed teaching Chemistry, loved Chemistry in secondary school, and considered Chemistry their best subject. The Pearson correlation result, $r = 0.607$, $p < 0.05$, indicated a significant relationship between students' interest, academic abilities, career aspirations, and their choice of Chemistry Education. Consequently, the null hypothesis was rejected.

This finding agrees with existing career development literature which emphasises the importance of intrinsic motivation, self-concept, and academic interest in career choice. Hui *et al.* (2018) found that self-esteem, career adaptability, and social support are important in students' career development. Marciniak *et al.* (2022) also emphasised that career preparedness involves students' ability to connect their interests, competencies, and goals with future career pathways. Similarly, Feldt *et al.* (2021) linked vocational identity resources with career development during emerging adulthood.

The finding suggests that students who are genuinely interested in Chemistry and teaching are more likely to view Chemistry Education positively. This is important because the development of professional identity begins before full entry into the labour market. Students who enjoy teaching Chemistry and see themselves as capable of teaching the subject may develop stronger career esteem

and greater commitment to the teaching profession. This supports the argument in the introduction that career esteem is connected to self-worth, professional identity, and long-term motivation.

However, the results should be interpreted carefully. Although many respondents expressed interest in Chemistry Education, the UTME findings also show that some students entered the programme because of admission constraints. This means that students' interest may not be uniform. Some students may have chosen Chemistry Education deliberately, while others may have adjusted to the programme after being placed there. This finding reinforces the need for effective career counselling, particularly for students who enter Chemistry Education through change-of-course arrangements. Such students require structured academic and professional orientation to help them develop positive attitudes toward the discipline.

Influence of UTME scores on students' career choice

The findings revealed that UTME scores had the strongest relationship with students' choice of Chemistry Education. Sixty per cent of respondents agreed that they were given Chemistry Education because of low UTME scores, while 80% reported that they changed to Chemistry Education because their UTME scores did not meet the cut-off mark for their preferred programmes. The Pearson correlation result, $r = 0.807$, $p < 0.05$, showed a strong and significant relationship between UTME scores and students' choice of Chemistry Education. The null hypothesis was therefore rejected.

This finding is important because it suggests that admission constraints strongly influence students' entry into Chemistry Education. It supports the observation in the introduction that Chemistry Education may attract students who were unable to gain admission into more preferred programmes such as Medicine, Nursing, Engineering, or other science-related fields. Ogunode (2025) similarly emphasised the need for effective career service centres in Nigerian universities to guide students in making informed educational and career decisions. Without such guidance, students may enter programmes not because of strong interest but because of institutional admission processes and cut-off marks.

The result also connects with broader concerns about the low prestige of teaching in Nigeria. Lawal (2012) and Egwu (2015) reported that teaching is often perceived as a less attractive profession. When students are placed in Education programmes because they did not meet the cut-off marks for other courses, this may reinforce the belief that teaching is a fallback career. Such a perception can weaken students' career esteem and reduce their long-term commitment to the teaching profession. Billett (2014) argued that the social esteem of a profession influences how it is valued and enacted. Therefore, if Chemistry

Education is repeatedly associated with low admission scores or second-choice placement, students may internalise a lower sense of professional worth.

At the same time, the finding does not mean that students admitted through UTME constraints cannot become committed Chemistry teachers. Rather, it shows the need for early professional orientation, mentoring, and practical exposure. If universities create supportive learning environments, students who initially entered Chemistry Education because of admission constraints may still develop strong professional identity and commitment. This aligns with UNESCO's position that improving teacher status, working conditions, and professional recognition is essential for strengthening education systems (UNESCO, 2014; UNESCO & International Task Force on Teachers for Education 2030, 2021).

Implications of the Findings

The findings have important implications for Chemistry Education, teacher preparation, and university admission practices in Nigeria. First, the strong influence of Chemistry teachers suggests that secondary school teachers can shape the future supply of Chemistry educators. Therefore, improving the quality of Chemistry teaching at the secondary school level may increase students' interest in Chemistry Education.

Second, the non-significant influence of parents suggests that career guidance should not focus only on family pressure. Universities and secondary schools should strengthen formal counselling systems that help students understand their abilities, interests, and career opportunities in Chemistry Education. This is consistent with Anaekwe (2021), who emphasised the need to improve students' awareness of career opportunities in Chemistry.

Third, the significant influence of students' interest and academic goals shows that intrinsic motivation remains essential. Students who see Chemistry Education as meaningful are more likely to develop positive professional identity. Finally, the strong influence of UTME scores suggests that admission policies may be pushing some students into Chemistry Education without adequate career preparation. This may affect students' career esteem, commitment, and future satisfaction if not properly addressed.

Overall, the study shows that Chemistry Education students' career choices are shaped by both positive motivational factors and structural constraints. While teachers and personal interest can encourage students toward Chemistry Education, UTME-related admission pressures may also channel students into the programme. Addressing this tension requires coordinated efforts by secondary schools, universities, policymakers, and professional bodies.

Conclusion

This study provides valuable insights into the factors influencing students' choice of chemistry education as a career among FUOYE students. The findings reveal a complex interplay of influences, with chemistry teachers emerging as the most significant factor. Teachers' passion, teaching methods, and ability to inspire students were found to play a critical role in shaping students' career aspirations. In contrast, parental influence was minimal, with cultural and traditional factors playing only a secondary role. Students' personal interests and academic goals were significant determinants of their career choices, highlighting the importance of intrinsic motivation in guiding career decisions. UTME scores also emerged as a key factor, often serving as a determinant for course selection due to admission constraints.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. **Strengthen Chemistry teachers' mentoring and career guidance roles.** Since Chemistry teachers significantly influence students' career choices, secondary school Chemistry teachers should be trained not only in content delivery but also in mentorship and career guidance. Teacher education programmes should emphasise practical teaching methods, motivational strategies, and career awareness so that Chemistry teachers can inspire students to consider Chemistry Education as a respected and rewarding profession.
2. **Improve career counselling before and after university admission.** Universities and secondary schools should provide structured career counselling to help students make informed decisions based on their interests, abilities, and long-term goals. This is especially important for students who enter Chemistry Education through change-of-course arrangements or because they did not meet the UTME cut-off marks for their preferred programmes.
3. **Promote Chemistry Education as a prestigious and socially valuable profession.** Government, universities, professional associations, and the media should work together to improve the public image of teaching, especially science teaching. This can be done through scholarship schemes, awards for outstanding Chemistry teachers, improved remuneration, better laboratory facilities, and public campaigns that emphasize the role of Chemistry teachers in national development, science literacy, innovation, and sustainable development.
4. **Review admission and orientation practices for Chemistry Education students.** Since UTME scores strongly influenced students' entry into Chemistry

Education, universities should ensure that students admitted into the programme receive proper orientation on career opportunities in Chemistry Education. Admission processes should also be supported with academic advising so that students understand the professional value of the course and are encouraged to develop commitment, confidence, and career esteem.

5. **Provide more practical and career-oriented Chemistry learning experiences.** Chemistry Education departments should expose students to laboratory-based learning, teaching practice, science outreach, and real-world applications of Chemistry. Such experiences can strengthen students' interest, improve their academic confidence, and help them connect Chemistry Education with wider career opportunities in education, research, industry, and national development.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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