

Assessment of climate change awareness level and action participation among students of Nwafor Orizu College of Education, Nsugbe

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ABSTRACT

Climate change is a leading environmental threat on an international scale, but there is still a mismatch in translating increased awareness into active mitigation participation on the part of the youth. Explaining the knowledge base and participatory behaviours of students in climate action is critical in creating sustainable environmental stewardship. The study used a descriptive survey design to examine the level of awareness and involvement in action among students of Nwafor Orizu College of Education, Nsugbe regarding climate change. Simple random sampling was used to select a sample of 150 students. An online structured questionnaire was used to gather the data through Google Forms, with a four-point Likert scale. The instrument was expert validated and a reliability coefficient of 0.89 revealed a strong internal consistency. The SPSS was used to calculate descriptive statistics to answer research questions, and Chi-square tests at the 0.05 significance level were used to test the hypotheses. Findings revealed that the awareness of climate change was rather high among the participants. Most of them said they had heard and learned about climate change and understood its effects on the environment including flooding and droughts. Nonetheless, the understanding of the scientific basis of the climate change and its key drivers, such as human-made activities and deforestation, was moderate. Involvement in mitigation activities such as sanitation of the environment, minimizing waste, awareness programmes, and mobilizing others to conserve the environment was also moderate. In addition, school programmes, information access, exposure to social media, government, and individual interest became important factors in determining how students participate in climate action programs. Significant awareness, participation and influencing variables within the cohort were supported by statistical analysis. The conclusion made is that despite the awareness of the students, augmented efforts are needed to support environmental education and institutional processes that drive active engagement in climate action. The recommendations that can be given are increased climate change curriculums, encouragement of environmental clubs and introduction of sustainability programmes in the institution in order to enhance student engagement.

INTRODUCTION

One of the most acute challenges of the modern world in relation to the environment is climate change. It refers to long-term changes in temperature, weather conditions, and the environment that are mainly caused by human activities like burning fossil fuels, deforestation and industrialization. These activities increase the levels of greenhouse gas in the atmosphere, thus triggering global warming and environmental imbalances. Climate change has implications that include sea-level rise, severe meteorological occurrences, loss of biodiversity, and threatened food security. Therefore, there is increased focus on raising awareness and triggering active involvement in mitigation, especially among the youth and students in higher institutions. Climate change awareness refers to individuals' knowledge, understanding, and perception of its causes, effects, and possible solutions. University and college students are a crucial group, as they are future leaders and policy-makers. Studies show that students often exhibit moderate to high awareness due to exposure to academic, media, and digital information sources (Ofori et al., 2023). However, awareness does not always translate into active environmental engagement. This gap reflects broader environmental,

technological, and urban challenges such as waste management, pollution, and infrastructure conditions (Okafor et al., 2022; Onwuka et al., 2017; Anyakora et al., 2021). It also relates to sustainability practices and climate adaptation efforts in housing and urban development (Anyakora et al., 2025; Odimegwu & Ikeotuonye, 2023; Ikeotuonye & Efobi, 2022; Okafor et al., 2022).

Education plays a critical role in raising awareness of climate change and shaping responsible environmental behaviour among students. Environmental education equips learners with knowledge and fosters positive attitudes toward sustainability. Tang (2022) highlights that integrating climate change pedagogy into higher education enhances understanding and promotes sustainable practices. This aligns with broader socio-cultural and developmental discourses on knowledge transmission and societal transformation (Okezie, 2021, 2023). Furthermore, historical and institutional dynamics influence how knowledge is disseminated and applied (Chukwu et al., 2025; Molokwu et al., 2023). Organizational and behavioural factors also reinforce sustainability practices (Muogbo et al., 2025a, 2025b), especially in contexts challenged by developmental issues (Ezeogidi et al., 2020). Even with a comparatively high level of awareness, there is a chronic disparity between thought and action, and it is referred to as the awareness-action gap. Such a gap is indicative of a situation whereby people understand issues concerning the environment but fail to act in ways that mitigate them. According to the study by Zsokay et al. (2013), university students demonstrated a great level of knowledge and positive attitudes towards sustainability, but these attitudes were not necessarily reflected in environmentally conscious behaviour. This implies that information in itself might not be enough to stimulate regular environmental behavior.

Student involvement in climate change activities includes: recycling, energy conservation, afforestation, attending environmental campaigns and promoting sustainable practices. Colleges and universities are one of the frequent sources of promoting these activities through environmental clubs and campus sustainability programmes. Such activities do not only reduce the environmental impact but also make students feel responsible towards ecological preservation. Benzehaf et al. (2025) reported that students who are actively engaged in sustainability activities are more likely to achieve more favorable environmental values and are more willing to engage in climate action at their institutions and outside. Many factors contribute to students willing to take action about climate change, such as availability of truthful information, institutional support, social pressure, and personal values towards the care of the environment. Students who have been introduced to climate education and participated in environmental programs tend to engage in pro-environmental behaviours more often (Tang, 2022). Other emotional aspects (e.g., worry or concern over climate change) can prompt students to find solutions and engage in climate action, as well (Yildiz, 2025).

The challenges to engaged participation in environmental activities remain academic despite the recognized motivations. A lot of students feel limited in their opportunities to participate and others feel that their personal efforts are not making a contribution to combat climate globally. Limited institutional support and lack of environmental education programs also hinder active engagement. Therefore, higher education institutions need to bring about favorable ecosystems enabling climate awareness to become a tangible practice. The issue is that, despite a significant percentage of students being aware of climate change and its effects, the number of students participating in mitigation programs is significantly low. This knowledge-practice dichotomy highlights the need to conduct the research which would examine climate change awareness rates among students and question their involvement in environmental activities. This kind of inquiry will provide institutions with practical insights to come up with strategies that would lead to environmental responsibility.

The urgency of the research is based on the growing worldwide concern about climate change and the critical role of education in the development of environmental awareness and responsible behavior. Climate change continues to pose threats to the ecosystem, human health, and sustainable development. To this end, raising awareness and creating a desire to take climate action

among the young population, especially the university students, has become a global priority. Students are future leaders and decision-makers whose skills and perspectives can influence the environmental policies and practices. However, the existing literature suggests that, even with the general recognition of climate change, students have a low degree of involvement in climate action (Ofori et al., 2023).

Empirical studies indicate that although university students show moderate to high awareness of climate change, a gap persists between knowledge and practical engagement. Ofori et al. (2023) observed that undergraduates possess basic knowledge but lack understanding of mitigation strategies, while Zsokai et al. (2013) noted that knowledge does not always translate into responsible behaviour. This disconnect reflects broader educational issues such as ineffective instructional strategies, limited practical exposure, and varying learning backgrounds (Onyiorah, 2021a, 2021b, 2022, 2023a, 2023b). It also aligns with studies emphasizing the role of technology use, entrepreneurship education, and professional development in enhancing applied skills and behavioural outcomes (Oguejiofor & Onyiorah, 2021, 2023; Oguejiofor et al., 2022; Okoro et al., 2025). Despite the growing global body of literature on climate change awareness, there is limited empirical evidence on the issue with specific reference to Nigeria colleges of education, especially on institutions like Nwafor Orizu College of Education, Nsugbe. Most of the studies focus on universities, but not colleges of education, which creates a gap in the context of perceiving awareness levels and patterns of participation among teacher trainees. Research on this population group is essential since these people will eventually become educators who can affect the spread of environmental knowledge to further generations. Thus, the study is important to determine the level of awareness and involvement in climatic action among students at the institution and at the same time to establish what can be done to improve environmental education and engagement.

Objectives

1. To assess the level of climate change awareness among students of Nwafor Orizu College of Education, Nsugbe.
2. To determine the level of participation of students in climate change mitigation activities within the college.
3. To identify factors influencing students' participation in climate change action initiatives in Nwafor Orizu College of Education, Nsugbe.

Research Questions

1. What is the level of climate change awareness among students of Nwafor Orizu College of Education, Nsugbe?
2. What is the level of students' participation in climate change mitigation activities within the college?
3. What factors influence students' participation in climate change action initiatives in Nwafor Orizu College of Education, Nsugbe?

Research Hypotheses

1. **H₀₁**: There is no significant level of climate change awareness among students of Nwafor Orizu College of Education, Nsugbe.
2. **H₀₂**: Students do not significantly participate in climate change mitigation activities within the college.
3. **H₀₃**: No significant factors influence students' participation in climate change action initiatives in Nwafor Orizu College of Education, Nsugbe.

Methodology

The current research utilized a descriptive survey research design to determine the level of climate change awareness and involvement in the corresponding behaviors among students at Nwafor Orizu College of Education in Nsugbe. This design was considered appropriate since it allows a systemic gathering of data of a large number of respondents, thus necessitating a thorough description of the available knowledge, attitudes, and behaviours related to climate change. The population of the study was defined as the population of all students attending the institution mentioned above. Out of this population a sample of 150 students was selected to engage in the investigation. The sampled size was deemed adequate to elicit representative responses in respect to the awareness of climate change and the participation in climate related activities in the college. Participants were selected using a simple random sampling technique, and all students were given equal chances of being selected. This step reduced the chances of sampling bias and improved the accuracy of the results.

The researcher developed a structured questionnaire that was used to collect data. The test had several parts that would measure the key variables of interest. One group assessed the level of climate change awareness amongst the students, another question assessed their involvement in mitigation programs and a concluding question determined factors that affected their involvement in climate action programmes. The questionnaire items were set within a four-point Likert scale which included the following: Strongly Agree, Agree, Disagree, Strongly Disagree, thus enabling the respondent to provide the strength of agreement to each statement. The online questionnaire was implemented through the Google Forms platform, and the survey link was shared electronically through the necessary institutional communication channels. The online format gave the respondents the comfort of using the mobile devices or the computer to fill out the instrument, quick source of data, less paper work and more accessibility. All the answers were automatically stored in Google survey database, which facilitated further data export to analysis.

To ensure this validity of the instrument, the questionnaire was reviewed by scholars of environmental education and research methodology. Their feedback increased the clarity, relevance, and adequacy of the items in the measurement of the variables under investigation. The pilot test was done to determine the reliability of the instrument, using a small group of students that were not part of the final sample. The pilot responses were analyzed with respect to a measure of internal consistency and the reliability coefficient was determined to be 0.89. This coefficient shows that the instrument is quite consistent and that the questionnaire items are consistent with each other. The information gathered through the online survey was exported and analysed in the Statistical Package for the Social Sciences (SPSS). The research questions were answered using descriptive statistics such as mean, standard deviation, median, mode, and frequency distributions to summarise the responses of respondents. These statistical indicators clarified the degree of awareness of climate change, the degree of involvement in mitigation practices, and the issue that affect participation in the climate action programs. The Chi-square test of independence was used to test the hypotheses developed to test this investigation. This was a suitable test because the data based on Likert-scale responses is categorical. Hypotheses were tested at the 0.05 level of significance and based on the obtained level of significance, the decision to accept or reject corresponding hypothesis was made.

Result

Table 1: Distribution of Respondents by Faculty and Gender

Variable	Category	Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Faculty	School of Sciences	47	31.3	31.3	31.3
	School of Arts & Social Sciences	44	29.3	29.3	60.7
	School of Education	29	19.3	19.3	80.0
	School of Vocational & Technical Education	30	20.0	20.0	100.0

	Total	150	100.0	100.0	
Gender	Male	66	44.0	44.0	44.0
	Female	84	56.0	56.0	100.0
	Total	150	100.0	100.0	

Table 1 shows the distribution of respondents by faculty and gender. The majority of respondents were from the School of Sciences (31.3%), followed by the School of Arts and Social Sciences (29.3%), School of Vocational and Technical Education (20.0%), and School of Education (19.3%). In terms of gender, female students constituted the larger proportion (56.0%) of the respondents, while male students accounted for 44.0%. This indicates a slightly higher female representation in the study sample.

Research Question 1: What is the level of climate change awareness among students of Nwafor Orizu College of Education, Nsugbe?

Table 2: Level of Climate Change Awareness among Students of Nwafor Orizu College of Education, Nsugbe

		I have heard about climate change.	Climate change refers to long-term changes in weather patterns.	Human activities contribute to climate change.	Deforestation contributes to climate change.	Climate change causes environmental problems such as flooding or drought.
N	Valid	150	150	150	150	150
	Missing	0	0	0	0	0
Mean		1.79	3.36	2.91	2.97	1.75
Std. Error of Mean		.096	.062	.082	.068	.090
Median		1.00	4.00	3.00	3.00	1.00
Mode		1	4	3	3	1
Std. Deviation		1.178	.762	1.010	.831	1.106
Variance		1.387	.581	1.019	.690	1.224
Skewness		1.035	-.898	-.617	-.080	.970
Std. Error of Skewness		.198	.198	.198	.198	.198
Kurtosis		-.644	-.072	-.682	-1.222	-.744
Std. Error of Kurtosis		.394	.394	.394	.394	.394
Percentiles	25	1.00	3.00	2.00	2.00	1.00
	50	1.00	4.00	3.00	3.00	1.00
	75	3.00	4.00	4.00	4.00	3.00

Table 2 presents the level of climate change awareness among students. The results show that most respondents have heard about climate change and recognize its environmental impacts such as flooding or drought, reflected by lower mean scores. However, understanding of the concept of climate change as long-term weather change and knowledge of its causes such as human activities and deforestation appear only moderate.

Research Question 2: What is the level of students’ participation in climate change mitigation activities within the college?

Table 3: Level of Students’ Participation in Climate Change Mitigation Activities within the College

		I participate in environmental sanitation activities.	I try to reduce waste to protect the environment.	I participate in environmental awareness programs.	I encourage others to protect the environment.	I practice proper waste disposal to reduce environmental problems.
N	Valid	150	150	150	150	150
	Missing	0	0	0	0	0
Mean		2.99	3.27	2.96	3.27	3.27
Std. Error of Mean		.082	.087	.076	.082	.082
Median		3.00	4.00	3.00	4.00	4.00
Mode		3	4	3	4	4
Std. Deviation		1.003	1.060	.926	1.008	1.008
Variance		1.007	1.123	.857	1.016	1.016
Skewness		-.903	-1.204	-.794	-1.275	-1.275
Std. Error of Skewness		.198	.198	.198	.198	.198
Kurtosis		-.174	.033	-.059	.443	.443
Std. Error of Kurtosis		.394	.394	.394	.394	.394
Percentiles	25	3.00	3.00	3.00	3.00	3.00
	50	3.00	4.00	3.00	4.00	4.00
	75	4.00	4.00	4.00	4.00	4.00

Table 3 shows the level of students’ participation in climate change mitigation activities within the college. The results indicate moderate participation among students in activities such as environmental sanitation, waste reduction, environmental awareness programs, and proper waste disposal. Many students also reported encouraging others to protect the environment.

Research Question 3: What factors influence students’ participation in climate change action initiatives in Nwafor Orizu College of Education, Nsugbe?

Table 4: Factors Influencing Students’ Participation in Climate Change Action Initiatives in Nwafor Orizu College of Education, Nsugbe

		Lack of information affects students’ participation in climate action.	School programs influence students’ environmental participation.	Government policies influence environmental activities among students.	Social media influences students’ awareness of climate change.	Personal interest influences participation in climate action.
N	Valid	150	150	150	150	150
	Missing	0	0	0	0	0
Mean		2.96	3.27	2.99	3.27	3.27
Std. Error of Mean		.076	.082	.087	.087	.082
Median		3.00	4.00	3.00	4.00	4.00
Mode		3	4	4	4	4
Std. Deviation		.926	1.008	1.071	1.060	1.008

Variance	.857	1.016	1.148	1.123	1.016
Skewness	-.794	-1.275	-.817	-1.204	-1.275
Std. Error of Skewness	.198	.198	.198	.198	.198
Kurtosis	-.059	.443	-.584	.033	.443
Std. Error of Kurtosis	.394	.394	.394	.394	.394
Percentiles					
25	3.00	3.00	3.00	3.00	3.00
50	3.00	4.00	3.00	4.00	4.00
75	4.00	4.00	4.00	4.00	4.00

Table 4 presents the factors influencing students’ participation in climate change action initiatives. The results show that several factors affect students’ engagement in climate-related activities. These include lack of information, school environmental programs, government policies, social media exposure, and personal interest. The mean values indicate that school programs, social media influence, and personal interest are particularly important in encouraging participation.

Hypothesis 1: There is no significant level of climate change awareness among students of Nwafor Orizu College of Education, Nsugbe.

Table 5: Chi-Square Test of Significant Level of Climate Change Awareness among Students

		H1
Chi-Square		71.387 ^a
df		13
Asymp. Sig.		.000
Monte Carlo Sig.	Sig.	.000 ^b
	99% Confidence Interval	Lower Bound
		.000
		Upper Bound
		.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 10.7.

b. Based on 10000 sampled tables with starting seed 2000000.

Table 5 presents the Chi-square test result for Hypothesis 1. The analysis produced a Chi-square value of 71.387 with 13 degrees of freedom and a significance value of 0.000, which is less than the 0.05 level of significance. Based on the decision rule, the null hypothesis stating that there is no significant level of climate change awareness among students is rejected. This indicates that students of Nwafor Orizu College of Education possess a significant level of awareness of climate change.

Hypothesis 2: Students do not significantly participate in climate change mitigation activities within the college.

Table 6: Chi-Square Test of Students’ Participation in Climate Change Mitigation Activities

		H2
Chi-Square		51.333 ^a
df		9
Asymp. Sig.		.000
Monte Carlo Sig.	Sig.	.000 ^b
	99% Confidence Interval	Lower Bound
		.000
		Upper Bound
		.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 15.0.

b. Based on 10000 sampled tables with starting seed 299883525.

Table 6 shows the Chi-square test result for Hypothesis 2. The analysis yielded a Chi-square value of 51.333 with 9 degrees of freedom and a significance value of 0.000, which is less than the 0.05 level of significance. Therefore, the null hypothesis stating that students do not significantly participate in climate change mitigation activities within the college is rejected. This indicates that students significantly participate in climate change mitigation activities within the institution.

Hypothesis 3: No significant factors influence students' participation in climate change action initiatives in Nwafor Orizu College of Education, Nsugbe.

Table 7: Chi-Square Test of Factors Influencing Students' Participation in Climate Change Action Initiatives

		H3
Chi-Square		76.747 ^a
df		10
Asymp. Sig.		.000
Monte Carlo Sig.	Sig.	.000 ^b
	99% Confidence Interval	Lower Bound .000
		Upper Bound .000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 13.6.

b. Based on 10000 sampled tables with starting seed 926214481.

Table 7 shows the Chi-square test outcome of Hypothesis 3. The result of the analysis was Chi-square value of 76.747 with 10 degrees of freedom and a value of 0.000, which is lower than the 0.05 level of significance. This results in a rejection of the null hypothesis that there are no significant factors that affect participation of students in climate change action initiatives. This finding implies that there are a number of factors that have a substantial effect on the students involvement in climate change action programs in the institution.

Discussion

The results of the Research Question 1 showed that students of Nwafor Orizu College of Education, Nsugbe exhibited a comparatively high degree of awareness of climate change. The findings revealed that the majority of the respondents had heard about climate change (Mean = 1.79) and acknowledged that climate change can lead to environmental issues like floods or drought (Mean = 1.75). Nonetheless, the understanding of climate change definition (long-term changes in weather; Mean = 3.36) and human activity (Mean = 2.91) and deforestation (Mean = 2.97) in climate change causation were moderate. This implies that the students do not have conceptual knowledge of the nature of climate change despite their awareness. This observation aligns with the results of Ofori et al. (2023) who found that students at the university level had general knowledge on climate change and had a gap in their knowledge regarding the specific causes and mitigation measures. Similarly, in another study, Yildiz (2024) also noted that despite many students having heard about climate change, their scientific knowledge of the drivers of climate change differed greatly. Conversely, Ogunbode et al. (2022) established that students in certain higher institutions had a better knowledge of the causes and effects of climate change because they had better environmental education programmes.

The Reasoned Research Question 2 results revealed that students were moderately engaged in mitigating climate change activities in the college. The findings showed moderate involvement in environment sanitation (Mean = 2.99), environment awareness programmes (Mean = 2.96), and waste reduction (Mean = 3.27). In a similar vein, a significant portion of the respondents also said they encouraged others to conserve the environment (Mean = 3.27) and to dispose of waste in an

appropriate manner (Mean = 3.27). Such results indicate that students engage in green activities but not at a high rate. This observation agrees with Benzehaf et al. (2025), who discovered that university students tend to express favorable environmental attitudes, which are accompanied by moderate levels of engagement in sustainability practices. In another study related to the environmental behaviour of students, Chen et al. (2025) have found that such students often do simple environmental behaviours, including waste reduction and recycling, but they are less often involved in organised climate action programs. On the contrary, Tang (2022) observed that in cases where universities have well-organised sustainability programmes and environmental clubs, the number of students that engage in climate-related activities also rises considerably.

The results of Research Question 3 showed that participation in climate change action initiatives among the students is affected by a number of factors. The findings indicated that information deficiency (Mean = 2.96), school programmes (Mean = 3.27), government policies (Mean = 2.99), social media (Mean = 3.27) and personal interest (Mean = 3.27) have an effect on student participation in climate action. This implies that institutional support, access to information as well as personal motivation are critical determinants of environmental engagement among students. The result aligns with that of Chen et al. (2025), which showed that institutional efforts, environmental education, and personal attitudes impact students in the participation of sustainability practices to a considerable degree. In a similar investigation, Saini and Rana (2025) highlighted that social media and environmental communication has a significant role in defining climate awareness and motivating young people to engage in environmental activity. Conversely, Wehn and Almomani (2019) observed that despite the importance of awareness and access to information, behavioural participation could still be low in institutional cases of weak institutional support.

These findings were also confirmed by the hypothesis-testing results. Hypothesis 1 was tested through the Chi-square test with significant level of climate change awareness among students ($\chi^2 = 71.387$, $p < 0.05$), which rejected the null hypothesis. Likewise, Hypothesis 2 demonstrated that there was strong engagement in climate change mitigation practices ($\chi^2 = 51.333$, $p < 0.05$). Lastly, Hypothesis 3 revealed that a number of factors play important roles affecting participation of students in climate change action initiatives ($\chi^2 = 76.747$, $p = 0.05$). Overall, these results indicate that the level of awareness of climate change among the students and their involvement in certain environmental behavior is high, but that the level of institutional support and environmental education can help increase the rates at which students engage in climate change mitigation efforts.

Conclusion

The research evaluated the degree of climate change awareness and action among the students of Nwafor Orizu College of Education in Nsugbe. The results found that students tend to have a high degree of awareness of climate change, especially on its ecological effects. Nevertheless, they had average knowledge about certain scientific issues and reasons behind climate change. This means that the students are not new to the phenomenon of climate change but still need better understanding of the processes and factors that drive climate change. It also revealed that students are engaged with climate change mitigation activities to a moderate level. Many students performed activities that included environmental sanitation, waste reduction, proper waste disposal, and the encouragement of others to conserve the environment, but the engagement was not very high. It implies that awareness is high, but more organized environmental programs in the institution can be used to enhance active participation in climate action.

Moreover, the research determined that there are a number of factors that determine the involvement of students in climate change action programs. These are the availability of information, school environmental programmes, government policies, exposure to social media, and individual interest in environmental matters. The results show that institutional support and good channels of communication have significant roles in motivating students to become involved in climate-related

activities. The results of hypothesis-testing proved that students possess considerable degree of climate change awareness, are quite engaged in climate change mitigation process, and are affected by a number of factors in their engagement in climate action programs. These findings demonstrate the need to reinforce the environmental education and institutional programmes fostering climate action amongst students.

REFERENCES

- Anyakora, M. I., Farinmade, A., Chukwukereuba, S., Odimegwu, C. N., Efobi, J. D., et al. (2021). Telecommunication infrastructure condition and consumers' brand loyalty in smart cities: The case of metropolitan Lagos. *International Journal of Network and Communication Research*, 6(1), 1–17.
- Anyakora, M. I., Odimegwu, C. N., Ikeotuonye, C. M., Onwubuya-Ezeala, S. O., et al. (2025). Prospects and challenges of adopting green maintenance approach in commercial property management for eco-friendly environment. *FESCON Conference Proceedings*, 5(1), 244–260.
- Benzehaf, B., Razkane, H., & Benzehaf, O. (2025). Exploring university students' perceptions and engagement in environmental awareness and sustainable practices. *Discover Environment*, 3(1), 247.
- Chen, C., Shahbaz, P., & Haq, S. U. (2025). Transforming students' green behavior through environmental education: The impact of institutional practices and policies. *Frontiers in Psychology*, 15, 1499781.
- Chukwu, D. O., Okezie, E. C., Alazor, C. A., & Ugwuja, A. A. (2025). Man, history, and society: a philosophical conversation. *UZU: UNIZIK journal of history and international studies*, 11(1). 14-29
- Ezeogidi, C. N. O., Okezie, O. V., & Okezie, E. C. (2020). *Violence and insecurity: A challenge to economic development and nation-building in Nigeria's Fourth Republic 1999–2020*. COOU Journal of Arts and Humanities (CJAH), 5(3). 1-7.
- Ikeotuonye, C. M., & Efobi, J. D. (2022). Responding to housing (real estate) needs: The role of real estate developers and practitioners in investment in housing. *Iconic Research and Engineering Journals*, 5(8), 264–271.
- Molokwu, U. C., Uchime, V. O., Chukwudi, F. J., Nwose, C. E., Mpamugo, E. E., Okezie, E. C., Ayozie, C. R., Akidi, F. C., Obasuyi, H. U., & Ebu, S. O. (2023). Colonialism, migration and intergroup relations in Africa: The Igbo and their Southern Cameroon neighbours, 1916–2014. *Cogent Arts & Humanities*, 10(2), 2286070.
- Muogbo, U. S., Ifechukwu-Jacobs, C. J., Muogbo, U. F., Okezie, E. C., Ezeamama, I. G., Arinze, E. S., & Obiezekwem, J. C. (2025a). Green human resource management practices in enhancing sustainability in manufacturing firms: Evidence from Imo State, Nigeria. *Journal of Research Administration*, 8(3), 167–186.
- Muogbo, U.S., Arinze, E.S., Ifechukwu-Jacobs, C.J., Ezeamama, I.G., Muogbo, U.F., Okezie, E.C., Obiezekwem, J.C., Nwangwu, J.C. and Idigo, B.C., (2025b). Perception of incentives among workers in the Anambra State Internal Revenue Service (AIRS) Awka. [*TPM-Testing, Psychometrics, Methodology in Applied Psychology*](#) 32 (3):186-197
- Odimegwu, C. N., & Ikeotuonye, C. M. (2023). Climate change adaptation: Climate change education and real estate resilience in Anambra State, Nigeria. *FESCON Conference Proceedings*, 4(1), 21–35.
- Ofori, B. Y., Ameade, E. P., Ohemeng, F., Musah, Y., Quartey, J. K., & Owusu, E. H. (2023). Climate change knowledge, attitude and perception of undergraduate students in Ghana. *PLoS Climate*, 2(6), e0000215.
- Oguejiofor, C. S., & Onyiorah, B. O. (2021). Extent of utilization of internet technologies by teachers of business subjects in senior secondary schools in Ogidi Educational Zone of Anambra State. *Multidisciplinary Journal of Vocational Education & Research*, 4(1), 79–87.
- Oguejiofor, C. S., & Onyiorah, B. O. (2023). Family background as a predictor of students' interest in business education programme in tertiary institutions in South East, Nigeria. *Multidisciplinary Journal of Vocational Education & Research*, 5(1), 244–262.
- Oguejiofor, C. S., Nzeribe, P. U., & Onyiorah, B. O. (2022). Entrepreneurship education for employability and global competitiveness in the new normal. *COOU Journal of Educational Research*, 7(1), 233–240.
- Ogunbode, O. O., Takpe, R., Adeniyi, A., Ogunbode, A. M., & Agboola, A. (2022). Knowledge of emergency contraception and predictors of its use among female undergraduates in two Nigerian universities. *Annals of Ibadan Postgraduate Medicine*, 20(2), 143.

- Okafor, C. C., Ibekwe, J. C., Nzekwe, C. A., Ajaero, C. C., & Ikeotuonye, C. M. (2022). Estimating emissions from open-burning of uncollected municipal solid waste in Nigeria. *AIMS Environmental Science*, 9(2).
- Okafor, J. I., Ugonabo, C. U., & Ikeotuonye, C. M. (2022). Comparative analysis of neighbourhood characteristics of residential neighbourhoods in Awka. *International Journal of Current Science (IJCS PUB)*, 12(1).
- Okezie, E. C. (2021). Socio-Cultural and Ethnic reality of Nigeria: The Challenge of Development. *International Journal of Arts, Languages and Business Studies (IJALBS)*, 6(3) 242-249
- Okezie, E. C. (2023). The Role of the National Human Right in Dealing with the Widows Social Exclusion in Anambra State. *International Journal of Management and Business Intelligence (IJBMI)*. 1(3) 235-254
- Okoro, F. A., Onyiorah, B. O., & Emeasoba, N. C. (2025). Business educators' perception of search engine and email marketing skills required for self-employment by business education students in South-South, Nigeria. *International Journal of Business and Entrepreneurship Education*, 2(2), 90–100.
- Onwuka, S. U., Ezigbo, C. M., & Eneche, P. S. U. (2017). Assessment of noise pollution from power generating sets: A case study of Nnewi-North LGA, Nigeria. *Journal of Scientific Research & Report*, 16(3), 1–12.
- Onyiorah, B. O. (2021). Influence of reading habits on academic performance of business studies students in upper basic education level in Enugu East Local Government Area of Enugu State. *Online Journal of Arts, Management and Social Sciences (OJAMSS)*, 5(2), 138–156.
- Onyiorah, B. O. (2021b). Innovative strategies for enhancing the teaching and learning of business education. *Global Journal of Education, Humanities and Management Sciences (GOJEHMS)*, 3(1), 60–71.
- Onyiorah, B. O. (2022). Distant learning program in business education: An effective alternative to the traditional classroom in the COVID-19 era. *IOSR Journal of Business and Management (IOSR-JBM)*, 24(4, Ser. III), 13–19
- Onyiorah, B. O. (2023a). Family background as correlates of students' academic achievement in business education programme in tertiary institutions in South East, Nigeria. *Multidisciplinary Journal of Vocational Education & Research*, 5(1), 263–284.
- Onyiorah, B. O. (2023b). Influence of business educators' professional development on instructional delivery of business education courses in universities in Anambra State. *Journal of Educational Research*, 8(1), 273–290
- Saini, D. K., & Rana, A. (2025). Digital Environmentalism: The Role of Social Media in Shaping Climate Awareness and Action. *Indonesian Journal of Social and Environmental Issues (IJSEI)*, 6(3), 318-333.
- Tang, K. H. D. (2022). A model of behavioral climate change education for higher educational institutions. *Environmental Advances*, 9, 100305.
- Wehn, U., & Almomani, A. (2019). Incentives and barriers for participation in community-based environmental monitoring and information systems: A critical analysis and integration of the literature. *Environmental Science & Policy*, 101, 341-357.
- Yildiz, M. (2025). Examining the levels of awareness, anxiety, and hope regarding global climate change among university students participating in activities at youth offices. *Frontiers in Psychology*, 16, 1655401.
- Zsóka, Á., Szerényi, Z. M., Széchy, A., & Kocsis, T. (2013). Greening due to environmental education? Environmental knowledge, attitudes, consumer behavior and everyday pro-environmental activities of Hungarian high school and university students. *Journal of cleaner production*, 48, 126-138.