

Perceptions and Expectations of Safety Gadgets: Insights from Health and Safety Education Lecturers in Some Selected Universities in Niger Delta Region

Doris Eseoghene Ikogho^{1*}, Dafe Festus Onoharigho¹, Rukevwe Samuel Akpokiniovo²

¹Department of Health and Safety Education, Faculty of Education, Delta State University, Abraka, Delta State, Nigeria, ²Science Education Department, Delta State University, Abraka, Nigeria. *Corresponding Author's Email: ikogho.doris@delsu.edu.ng

Abstract

This study investigates the perceptions and expectations of Health and Safety Education lecturers regarding the adequacy, challenges, and prospects of safety gadgets and facilities in Nigerian universities. The primary aim is to assess their perceptions of the current state of health and safety facilities, identify key challenges impacting the adequacy and effectiveness of these facilities, and explore opportunities for improvement. This study used the design of the descriptive survey, utilizing questionnaire administered to Health and Safety Education lecturers in six Nigerian universities. Data analysis included mean and standard deviation and statistics such as t-test and supported by ANOVA in determining differences related to gender, educational qualification cum experiences. Findings revealed that while lecturers generally agree on the importance of health and safety facilities, there are significant concerns regarding inadequate funding, lack of modern equipment, and poor maintenance culture. Furthermore, the study emphasized a lack of policy implementation and staff training as major barriers to effective health and safety management. Despite these challenges, lecturers identified increased funding, technological advancements, public-private partnerships, and better staff training as promising strategies for improvement. This study is anchored on the Social Cognitive Theory (SCT). The recommendations included a call for greater institutional support, policy enforcement, and resource allocation to improve the safety environment in Nigerian universities, thereby promoting a culture of health and safety among staff and students.

Keywords: Challenges, Experiences, Perceptions, Prospects, Safety Gadgets.

Introduction

Safety in any environment is not just a set of rules to follow but an ingrained aspect of our daily lives, requiring intentional integration into every environment. It embodies the proactive efforts to prevent accidents, promote well-being, and sustain trust in shared spaces. As global concerns on safety continue to evolve, there is a growing shift from viewing safety as mere compliance to embracing it as a cultural norm. This shift prioritizes accident prevention and fosters positive attitudes toward safety practices. Experts have conceptualized safety as the absence of injury, fear, pain, or loss, a definition that underscores its holistic importance (1). Similarly, studies have highlighted the intrinsic link between safe environments and effective learning, emphasizing how safety directly impacts outcomes in educational settings. Within this framework, safety gadgets play a crucial role (2). These devices, ranging from basic personal

protective equipment (PPE) like helmets and gloves to advanced technologies such as gas detectors, automated external defibrillators, smoke detectors, panic buttons, and fire suppression systems, are essential in minimizing risks, safeguarding lives, and ensuring security. In universities, the deployment of such gadgets not only mitigates hazards but also cultivates trust and reinforces a culture of safety, aligning with the broader goal of risk management and community well-being (3). These tools not only protect institutional reputations and physical assets ensuring better safety outcomes, but this also aligned with university mission statements that prioritize safe learning environments (4-6). Youths represent a vulnerable demographic group frequently employed in occupations where hazards are prevalent. They are also employed in diverse roles within industries, and their young

This is an Open Access article distributed under the terms of the Creative Commons Attribution CC BY license (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted reuse, distribution, and reproduction in any medium, provided the original work is properly cited.

(Received 01st December 2024; Accepted 15th April 2025; Published 27th April 2025)

age necessitates robust safety measures, especially in environments with inadequate hazard mitigation. This vulnerability stems from poor awareness of occupational risks and insufficient capacity to adopt safety measures for themselves and their surroundings (7). In university settings, this issue is particularly critical as students and young staff are exposed to a range of occupational hazards, including fire risks, laboratory accidents, and exposure to harmful substances. Some educational institutions lack the recommended safety facilities and essential equipment necessary to properly train these young persons. In such cases where the gadgets are available, they are outdated and are poorly maintained (8, 9). However, universities that have embraced modern safety technologies and implemented structured safety programs reported significant benefits, reduced incident rates and enhanced emergency response capabilities among staff and students but observed that resources are hardly allocated to maintain them (10). Studies related to the adoption of modern safety gadgets in South Africa stressed the importance of training users on the effective use of safety gadgets. Similarly, studies conducted in Zambia underscores the systemic challenges in the use of modern technologies due to policy gaps and infrastructural limitations (11, 12). A study carried out in University of Lagos (UNILAG) during an assessment of safety protocol identified the need for a comprehensive campaign on the use of safety gadgets across all levels as critical areas for improvement. In a similar training in 2020, the outcome of an awareness campaign on proper use of safety gadgets increased by 70% among students after the training session. A recent workshop study by Akinwumi *et al.*, concluded that lecturers' awareness increased from 40% to 85% after a sensitization on the value of safety gadgets. Feedback from the session revealed that 90% of participants expressed a desire to implement safety practices in their teaching, this suggests a need to subject all lecturers to similar training (13, 14). Advanced gadgets like biometric access systems, AI-enabled monitoring tools, and personal safety apps are transforming campus safety from reactive to proactive approaches. Familiarity with these gadgets instills confidence in students, enabling decisive action during crises and improving real-world safety outcomes (15). Despite the recognized importance of safety, many

existing facilities fail to meet these expectations. In the Niger Delta region, known for its industrial activities, the perceptions and expectations of Health and Safety Education lecturers are critical, given their role in training safety professionals to navigate occupational hazards. Their insights are shaped by both practical exposure and theoretical knowledge of workplace hazards (16). Studies reveal that lecturers view safety gadgets not only as essential for protection but also as tools that empower individuals to perform tasks confidently and efficiently. Lecturers emphasize the need for user-friendly designs, as overly complex gadgets can undermine their intended benefits. The prevalence of substandard gadgets in the market further stressed the urgency for stringent regulatory frameworks to ensure quality and reliability. Thus, building institutional capacity for accountability (17). Perceptions of safety gadgets vary by gender, educational qualifications, and years of experience. For instance, female lecturers often prioritize personal safety devices, while male counterparts focus on broader safety measures that work well with vehicles or home security (18). Higher educational qualifications correlate more with a greater familiarity with international safety standards. Lesser qualification makes users prefer simple interface, as well as become hesitant in adopting modern technology. Experienced users may prefer multifunctional gadgets, and be attracted to new technology. However, gaps between theoretical knowledge and practical application highlight the need for continuous training and mentorship (19-21). Additionally, years of experience enhances the use and development of safety gadgets by enabling informed decisions and practical solutions. Experienced professionals are able to draw insights and clues from past challenges to improve training and advocate for policy changes. Their understanding of user behavior helps to optimize gadget adoption and functionality. In contrast, less experienced users on the other hand struggle with complex gadgets and are prone to accidents than experienced users (22, 23). This is because they lack awareness about existing risks and a limited capacity to adopt practical safety measures to protect themselves and their environments (24-26). However, this disparity can help inform marketers and manufacturers interest for safety gadgets that are effective across different

segments of the population (27). These demographic dynamics emphasize the necessity for systemic interventions that address individual differences while fostering inclusive and effective safety practices. The consensus reflects the collective urgency to improve health and safety facilities, highlighting the need for systemic interventions that transcend individual differences (28, 29). Despite positive perceptions and high expectations, deploying safety gadgets in Sub-Saharan African universities faces challenges, including high costs, inadequate training, and maintenance issues. Health and Safety Education departments, crucial for training future industry experts, often have limited access to these tools (30-32). The lack of professional development opportunities for lecturers further exacerbates the problem, hindering their ability to stay current with modern technology. This perspective collaborated recent studies that who advocated for integrating modern safety technologies and collaborative approaches to enhance safety outcomes (33-35). Recent incidents, such as fire outbreaks at Makerere University, violent protests in Cape Town University, and flooding at the University of Ibadan, highlight the urgent need for effective safety measures (36-39). The COVID-19 pandemic also exposed significant gaps in safety preparedness of universities in some Sub-saharan region such as inadequate sanitization stations and personal protective equipment (40, 41). To address these challenges, an integrated approach involving policy reform, financial investment, capacity building, institutional accountability, and heightened safety awareness is imperative (42-44). Improving safety infrastructure requires increased budgets, external funding, and regular staff training. However, obstacles such as financial constraints, bureaucratic delays, and cultural attitudes toward safety persist (45-47). The Nigeria Universities Commission (NUC) has a role to play. It is their duty to enforce and establish the regulatory framework that promotes the provision, maintenance, and use of such gadgets in the university. This body ensures universities meet minimum infrastructural standards and the availability of such safety gadgets (48). The perceptions and expectations of lecturers regarding these gadgets provided critical insights into whether the NUC guidelines are effectively implemented and whether they meet the practical

needs of students. By understanding lecturers' views on the adequacy, accessibility, and functionality of safety gadgets, universities can align their practices with NUC policies to foster a proactive safety culture. This ensures that safety measures are not only in place but also effectively utilized, bridging the gap between policy implementation and real-world outcomes (49). Considering the gap between technological innovations in safety and the educational sector's preparedness to integrate these advancements, and the additional need to address the intersection of gender, professional experience and others in shaping safety gadget usage, there is therefore a need to provide a comprehensive framework for universities to align their safety protocols with international best practices (50). This study therefore examined Health and Safety Education lecturers' perceptions of the adequacy of safety gadgets, identifies challenges impacting their effectiveness, and explores opportunities for enhancing safety gadgets in universities across Sub-Saharan Africa. By focusing on the perspectives of these educators, this research aims to address existing gaps and provide tailored safety strategies for the region's universities.

Theoretical Framework

The study is hinged on Social Cognitive Theory (SCT) propounded by Albert Bandura (51). This theory provided the framework with which to understand the perception of lecturers' and how they adopted safety gadgets. SCT explained how personal factors such as knowledge, experiences and attitudes, environmental influences e.g gadget availability, institutional policies and behavioral determinants such as engagement of safety gadgets can interact to drive decision-making. This framework promoted the conceptual depth of the study by moving beyond descriptive approach to exploring how the cognitive and the social factors influenced safety education, technology adoption in the university settings (52, 53).

Methodology

A multistage sampling strategy was utilized to select sample for this study. Firstly, a random selection of 3 states, Edo, Delta, and Bayelsa was made from 6 states of the Niger Delta area. These states were picked because they contained universities that offer Health and Safety Education. Next, stratified sampling was applied to select all

federal and state universities within these states that met the study's inclusion criteria. This resulted in the selection of the University of Benin (UNIBEN) and Ambrose Alli University (AAU) in Edo State; Delta State University, Abraka (DELSU) and University of Delta, Agbor (UNIDEL) in Delta State; and Federal University Otuoke (FUOTUOKE) and Niger Delta University (NDU) in Bayelsa State. The Federal University of Petroleum Resources, Effurun (FUPRE), was excluded as it does not offer Health and Safety Education. A complete enumeration method was then used to include all 66 Health and Safety Education lecturers from the six universities, as the total population size was small, eliminating the need for further sampling.

Data was collected with a structured questionnaire of the modified Likert scale. The instrument underwent validation by two experts, one with specialty in Health and Safety Education and the other in Measurement and Evaluation. Reliability was determined using the test-retest method with a sample of 12 lecturers not included in the study, yielding a Cronbach's alpha coefficient of $r = 0.82$. For analysis, the mean, the standard deviation, t-test, and ANOVA were utilized. Participation was voluntary, with informed consent obtained, and anonymity and confidentiality ensured. The study ethical approval was got from Delta State University, Abraka, Nigera (RBC/FBMC/DELSU/25/511).

Results

Table 1: Summary of the Descriptive Statistics on Perceptions of lecturers on Adequacy of Facilities in Nigerian Universities

S/N	Items	X	SD	Comment
1.	Health and safety facilities in my institution are adequate	2.74	1.03	Agreed
2.	The health related facilities in my institution meet the required standards	2.50	1.07	Agreed
3.	My university's health and safety facilities effectively prevent accidents and health hazards.	2.77	1.01	Agreed
4.	The maintenance culture of health and safety facilities in my university is excellent.	2.65	1.17	Agreed
5.	I am satisfied with the current state of health and safety facilities in my university.	2.24	1.08	Disagreed
	Cluster Mean/SD	2.58	1.07	Agreed

Perceptions of Lecturers on Adequacy of Facilities in Nigerian Universities

Table 1 findings revealed respondent responses on a four items on perceptions of Health and Safety Education lecturers regarding adequacy of safety related facilities in Nigerian universities ranged from 2.50 to 2.77 indicating that the respondents agreed on four of the items to be moderately adequate. Notably, lecturers agreed that the existing facilities meet the expected standards ($M = 2.50$, $SD = 1.07$), they also expressed dissatisfaction with their overall state ($M = 2.24$,

$SD = 1.08$). The low standard deviations which ranged from 1.01 to 1.17, suggested consistency in the varied responses, thus indicating a common perception among lecturers. However, lecturer's disagreement on satisfaction suggested that, in spite of the presence of some facilities, there are concerns regarding their maintenance and effectiveness. These findings aligned with literature that emphasized a gap between policy implementation and infrastructural adequacy in educational institutions.

Table 2: Summary of Descriptive Statistics of Challenges Affecting the Adequacy and Effectiveness of Health and Safety Facilities

S/N	Items	X	SD	Comment
1.	Is insufficient funding a major challenge affecting the adequacy of health and safety facilities in my university?	2.92	1.01	Agreed

2.	Lack of modern equipment significantly affects the effectiveness of health and safety facilities in my university.	3.05	1.12	Agreed
3.	Poor maintenance is a significant challenge to the adequacy of health and safety facilities in my university.	2.83	1.05	Agreed
4.	Inadequate training for staff is a significant challenge in the management of health and safety facilities in my university.	3.12	0.94	Agreed
5.	There are significant policy implementation gaps that challenge the effectiveness of health and safety facilities in my university.	2.61	1.19	Agreed
Cluster Mean/SD		2.91	1.06	Agreed

Challenges Affecting the Adequacy and Effectiveness of Health and Safety Facilities

The findings on Table 2 shows the challenges affecting adequacy and effectiveness of health and safety facilities ranged from 2.61 to 3.12 and the grand mean was 2.91. Respondents agreed that key challenges are insufficient funding ($M = 2.92$, $SD = 1.01$), lack of modern equipment was $M = 3.05$, $SD = 1.12$, with poor maintenance recording ($M = 2.83$, $SD = 1.05$). The challenge most rated was

inadequate staff training ($M = 3.12$, $SD = 0.94$), which suggested that the critical issue was human resource capacity. The standard deviations (0.94 to 1.19), indicated a moderate level of agreement, with varied perspectives. The findings reinforced previous research emphasizing systemic funding and maintenance lapses as major barriers to the effectiveness of safety gadgets. To address these challenges, require targeted interventions, especially in resource allocation and policy implementation.

Table 3: Summary of Descriptive Statistics of Prospects for Improving Facilities

S/N	Items	X	SD	Comment
1.	More funding will improve health and safety facilities in my institution.	2.74	1.23	Agreed
2.	Public-private partnerships offer significant opportunities for improvement of facilities in my institution.	3.41	0.76	Agreed
3.	Technological advancements will likely improve effectiveness of facilities in my university.	3.12	1.00	Agreed
4.	Enhanced staff training will significantly improve my university's management and operation of health and safety facilities.	2.86	0.93	Agreed
5.	Better policy implementation will significantly address the challenges associated with health and safety facilities in my university.	3.14	1.05	Agreed
Cluster Mean/SD		3.05	0.99	Agreed

Prospects for Improving Facilities

Table 3 indicated the responses on prospects for promoting safety facilities in Nigerian universities ranged from 2.74 to 3.41 with a cluster mean of 3.05 ($SD = 0.99$, thus indicating strong agreement on why improvement is needed. Public-private partnerships rated as the most promising approach ($M = 3.41$, $SD = 0.76$), followed by adoption of technological advancements ($M = 3.12$,

$SD = 1.00$). Increased funding with $M = 2.74$, and $SD = 1.23$. And enhanced staff training ($M = 2.86$, $SD = 0.93$) were also seen as being crucial for improving safety facilities. Lower standard deviations indicated a high level of consensus between respondents. The findings suggested that sustained improvement efforts should focus on collaborative funding models, modernization of safety equipment, and continuous capacity-building programs for teaching personnel.

Table 4: t-test Summary of Gender-Based Differences in Perceptions of Health and Safety Facilities

Variable	N	Mean	SD	Df	A	T	p-value	Decision
Male	39	2.64	1.01					
Female	27	2.89	1.05	64	0.05	0.96	0.34	NS

Table 5: Summary of t-test on Influence of Work Experience and Perceived Challenges

Variable	N	Mean	SD	Df	A	t	p-value	Decision
Less Experience	27	2.85	1.10					
Experience	39	2.97	0.96	64	0.05	0.48	0.63	NS

Gender-Based Differences in lecturers Perceptions of Safety Facilities

Data presented on Table 4 reveals that the t-value of 0.96 at 64 degree of freedom on perceptions of Health and Safety Education lecturers regarding the adequacy of health and safety facilities in Nigerian universities with a p-value of 0.34 is > than the criterion value of 0.05 (p-value $0.34 > 0.05$). Since p-value is > than the significant value, the null hypothesis was retained. This suggested that gender does not play a significant role in shaping perceptions of health and safety lecturers in facilities, thus implying that concerns raised are commonly shared across demographics.

Influence of Work Experience and Perceived Challenges

Data presented in Table 5 reveals that the t-value of 0.48 at 64 degree of freedom on challenges affecting the adequacy and effectiveness of health and safety facilities in Nigerian universities with a p-value of 0.63 is greater than the criterion value of 0.05 (p-value $0.63 > 0.05$). Since p-value is > than the significant value, the null hypothesis was retained. This implied that both early-career and senior lecturers experienced similar difficulties in managing and accessing health and safety facilities, thus reinforcing systemic nature of barriers/challenges rather than the individual or experience-based variations.

Table 6: Summary of ANOVA on Educational Qualification and Perceived Prospects for Improvement

95% Confidence Interval for Mean								
	N	Mean	SD	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
First degree	5	2.80	1.643	.735	.76	4.84	1	4
Second Degree	17	3.00	1.225	.297	2.37	3.63	1	4
Third degree	44	2.70	1.193	.180	2.34	3.07	1	4
Total	66	2.79	1.222	.150	2.49	3.09	1	4

Table 7: Summary of ANOVA on Educational Qualification and Perceived Prospects for Improvement

	Sum of Squares	Df	Mean Square	F	Sig. 2 tail test	Decision
Between Groups	1.071	2	.536	.352	.705	NS
Within Groups	95.959	63	1.523			
Total	97.030	65				

P = 0.05

Educational Qualification and Perceived Prospects for Improvement

Table 6 and Table 7 presented the ANOVA results indicating whether perceptions of improvement in strategies vary with educational qualification. The F-value (0.35) and corresponding p-value (0.71) indicated no significant differences among lecturers with degrees in first degree, second degree or third degree. This suggested that

lecturers across varied qualification levels has similar views based on the interventions for enhancing health and safety facilities, suggesting a collective recognition of necessity for systemic reforms.

Discussion

Analyses in Table 1 revealed that lecturers recognized the key roles of health and safety

facilities but raised concerns about their maintenance and adequacy. Although there is a consensus on the necessity of such facilities, doubts regarding their effectiveness persist. These observations aligned with literature, which highlighted the gap between the safety need of institutions and the practical implementation (8, 9). Several studies revealed that although universities acknowledged their need for several safety gadgets, challenges such as antiquated equipment, inadequate policy enforcement and poor maintenance hindered their effectiveness (10, 11). This corroborated research that emphasized that safety facilities in universities of the Sub-Saharan region often do not meet expectations because of systemic failures (12, 13). The study also reinforces the findings of Akinwumi *et al.*, who opined that campaigns on raising awareness increased knowledge of safety gadgets use among lecturers, in spite of this, findings, adoption remains low due to financial difficulties and a lack of commitment on the part of institutions (14). These findings support research carried out in South Africa and Zambia, which spotted policy gaps and resource constraint as barriers to effective management of safety (15, 16). Additionally, findings from this study affirmed the assertion that lecturers perceived see safety gadgets not just as protective tools but as a mechanism for boosting confidence and promoting efficiency in the workplace (19). Contrastingly, concerns complex designs and the unending prevalence associated with substandard gadgets reinforced the urgent need for stricter regulatory policy frameworks and institutional accountability (20, 21). Despite the outlined challenges, lecturers are optimistic about addressing the challenges through technological advancements and public-private partnerships (22, 23). This corroborated studies that advocated for integration of modern safety technologies and collaborative strategies to improve safety outcomes (24). Respondents further stressed the importance of enhanced staff training, comprehensive policy reforms as key for bridging the gaps in safety management (25-27). These findings aligned with studies that suggested structured training programs can promote improvement in safety awareness and gadget utilization in university settings (28, 29). In the same vein, The t-test analysis showed no differences in lecturers' perceptions of health and

safety facilities related to gender, echoing studies that reported no gender disparities in safety perceptions among educators (30, 31) contradicting studies suggesting that gender influences specific safety priorities (32). ANOVA results revealed no significant differences in perceptions based on years of experience or educational qualifications, aligning with studies that professional background may not influence educators' views on health and safety issues (33, 34). Thus contradicting studies that suggested otherwise (35-37).

Limitations of the study

Limitations of the study included the exclusion of private universities. Future studies could expand the sample of the study as well as incorporate qualitative methods for deeper insights. Although this ensured relevance, it excluded the perspectives of universities that may still be experiencing some safety concerns yet lacked formalized programs.

Conclusion

These findings contributed meaningfully to the existing discourse on health and safety in academic environments, emphasizing the need for integrated strategies that combines technological, managerial, and collaborative solutions. Effective strategies to these challenges will require sustained investments, establishment of robust policy frameworks and the continuous professional development programs. The findings further support calls for interventions that address demographic variations in safety gadget adoption while ensuring inclusive safety practices (38-40). These measures are essential for aligning safety practices in academic institutions with global standards, ultimately fostering safer educational environments for all stakeholders.

Abbreviations

SCT: Social Cognitive Theory, UNESCO: United Nations Educational, Scientific and Cultural Organisation, H_{01} : Null hypothesis 1, H_{01} : Null hypothesis 2, NUC: Nigeria Universities Commission.

Acknowledgment

The authors wish to express their sincere appreciation to all those whose work was used for this study. You all made this study possible.

Author Contributions

Doris Eseoghene Ikogho: Conceptualization and draft preparation, Dafe Festus Onoharigho: Data collection, Rukevwe Samuel Akpokiniovo: Data analyses and discussion of findings.

Conflict of Interest

There is no conflict of interest for this study.

Ethics Approval

This study utilized the Declaration of Helsinki. The authors received an approval (Delta State University, Abraka with number RBC/FBMC/DEL SU/25/674) to carry out this study. The data of this study were anonymized and the manuscript has no personal data. Consent was received from participants.

Funding

None.

References

- Adejoh PE. Perceptions of campus safety and associated factors among undergraduates of the University of Lagos, Nigeria. *Int J Integr Hum.* 2020;12(1):34.
- Ikogho DE, Ikogho EO. Chemical hazards and allergic diseases of furniture makers and attitude towards the use of protective equipment in Ethiopia East L.G.A of Delta State. *Int J Health Sci Res.* 2022;12(1):218–22.
- Mubita K. Understanding school safety and security: Conceptualization and definitions. *J Lexicogr Terminol.* 2021;5(1):76–86.
- Eze F, Okon U. Technological innovations and safety measures in educational institutions: An overview of the Nigerian context. *J Health Saf Res.* 2021;9(1):25–39.
- Oni B. Gender disparities in safety perceptions among educators in West African universities. *Afr J Saf Stud.* 2016;8(3):67–89.
- Delta State University, Abraka. Vision and Mission. <https://delsu.edu.ng/about/vision-and-mission/index.html>
- Akinwumi AA, Olagunju SA. Enhancing safety awareness in Nigerian universities: A case study of Obafemi Awolowo University. *Int J Educ Manag.* 2021;35(2):324–35.
- Ikogho DE, Akpokiniovo RS. The psychosocial impact of stress on chronic illness. *Int J Educ Soc Sci Res.* 2025;8(1):145–52.
- Odukoya AO, Fadeyi A. Assessment of safety practices among students in selected tertiary institutions in Lagos State, Nigeria. *J Environ Health Sci Eng.* 2020;18:123–30. <https://jehse.springeropen.com/articles/10.1186/s40201-020-00424-2>
- Adebayo T, Umeadi U. Health and safety facilities in Nigerian universities: Gaps between perceptions and implementation. *J Educ Dev.* 2020;45(2):112–24.
- Bowen I, Toor H, Zampella B, Doe AN, King CR, Miulli DE. Infrastructural limitations in establishing neurosurgical specialty services in Liberia. *Cureus.* 2022;14:e29373.
- Ogbe J, Ikogho DE. Duration of breastfeeding as a predictor of body mass index among children in South-South Nigeria. *Indian J Pediatr.* 2025. doi:10.1007/s12098-025-05515-9.
- Ikogho DE, Onoharigho FD. Menstrual waste management practices among female students in Niger Delta Development Commission hostels in educational institutions in Niger Delta, Nigeria. *BMC Womens Health.* 2025;25:60.
- Kourgiantakis T, Ward S, Pizzuto M. The effectiveness of surveillance technology in crime reduction on college campuses. *Crime Technol J.* 2021;29(2):85–101.
- Oladikpo S, Umeadi B. Health and safety awareness in higher institutions: A case study from Nigeria. *J Afr Saf Educ.* 2018;6(4):14–28.
- Demissie D, Alemu D. An investigation into user adoption of personal safety devices in higher education using the Unified Theory of Acceptance and Use of Technology (UTAUT). *J Stud Inf Syst.* 2017;8(1):50–68.
- Onyema E, Aliyu M. Policy implementation gaps in health and safety management in Nigerian universities: Challenges and recommendations. *Int J Educ Adm.* 2020;8(1):11–24.
- Williams R, Brown J. Gender differences in campus safety perceptions. *J Gend Stud.* 2017;9(2):101–15.
- Martínez F, et al. The role of professional training in safety management. *J Occup Saf Health.* 2019;14(3):78–96.
- Ajayi K, Lawal O. Experience and safety perceptions among educators: A comparative analysis. *J Saf Educ.* 2022;54(1):65–78.
- Johnson T, Williams R, Brown P. Safety training in educational institutions: Bridging the gap between traditional practices and modern technologies. *J Risk Crisis Manag.* 2020;39(5):144–59.
- Njoku A, Adebayo T, Umeadi U. Public-private partnerships for enhancing safety infrastructure in African universities. *J Afr Dev.* 2022;33(4):201–16.
- UN Women. Gender and safety on campus: A global review of security measures. *Glob Saf Rev.* 2020;21(2):108–19.
- Nwankwo M, Uchenna E. Funding challenges in health and safety management in Nigerian universities: An exploratory study. *J Health Manag.* 2021;13(3):92–105.
- James S, Lucchesi D, Bisignano A. Disaster risk reduction and safety preparedness in Sub-Saharan Africa. *Glob Health Rev.* 2017;18(3):124–36.
- Njoku C, Uche I, Okafor R. Public-private partnerships and the enhancement of health and safety facilities in Nigerian universities. *J Educ Policy Anal.* 2022;16(2):44–60.
- Adefolaju M. Enhancing safety management skills through staff development programs in universities. *Saf Sci J.* 2023;67(4):215–27.
- Johnson M, et al. Safety infrastructure in developing nations: The role of policy and technology. *Int J Saf Sec.* 2020;23(4):150–62.
- Adebayo O, Umeadi B. Perceptions of health and safety among educators in Nigerian universities: An evaluation of current practices. *J Educ Saf.* 2020;12(1):45–58.
- Ogbonna N, Adebisi A, Kalu O. Inadequate training and safety facility management in Nigerian universities: Implications for policy. *J Educ Res.* 2019;14(3):165–77.

31. Haruna A. Northeast Nigeria university records multiple fire accidents in one weekend. Univ World News. 2021. <https://www.universityworldnews.com>
32. Makerere University Fire, Uganda. 2020. <https://www.myjoyonline.com/uganda-makerere-university-main-building-fire>
33. The Observer. Fire guts Makerere University main building; student records at risk. The Observer. 2020. <https://www.observer.ug/news/headlines/66647-fire-guts-makerere-university-main-building-student-records-at-risk>
34. Mulugeta G. Building a university network for disaster risk reduction in sub-Saharan Africa. In: Beer T, editor. Geophysical hazards: International Year of Planet Earth. Dordrecht: Springer; 2009. p. 95–108. https://doi.org/10.1007/978-90-481-3236-2_6
35. Ekpo M, Asuquo I. Experience and perceptions of health and safety challenges among educators in Nigeria: A comparative analysis. Niger J Educ Manag. 2018;10(3):56–72.
36. World Health Organization (WHO). Improving safety gadgets and infrastructure in educational institutions: A global perspective. World Health Organ Rep Educ Saf. 2019;45(1):88–102.
37. Jan E, Schmidt S, Steffen E, Knill C, Grohs S. Administrative styles in the OECD: Bureaucratic policy-making beyond formal rules. Int J Public Adm. 2017;40(8):637–48.
38. Erçek MK, Kıyas F, Birel K. Developing the School Safety Perception Scale: The validity and reliability study. J Educ Meas. 2021;21(1):37–53.
39. Nnorom SU. Security management practices in the 21st century. Niger J Secur Stud. 2020;8(7):1–14.
40. Ikogho DE, Temisere-Bethel K. Parenting styles on childhood injury prevention: Insights from nursing mothers in Niger Delta primary health care settings. Int J Sci Res Sci Technol. 2025;12(2):297–310.
41. Ajayi A, Lawal B. Challenges of safety gadget implementation in African universities. J Saf Educ. 2022;18(3):45–59.
42. Okafor C, Ibe P. Safety measures and practices in Nigerian universities. Afr Educ Rev. 2021;19(1):33–49.
43. UNESCO. Education and safety measures in sub-Saharan Africa. Paris: UNESCO Publishing; 2020.
44. Akinyele S, Onukwufor J. Gender differences in safety perceptions among university educators in Nigeria. Int J Gend Stud. 2019;7(4):113–25.
45. Bureau of Justice Assistance. Improving campus safety through technology. U.S. Department of Justice, 2020. <https://bja.ojp.gov>
46. Ikogho DE. The culture of silence and the practice of sex for grades in a tertiary institution in Delta State. Int J Health Educ Soc. 2022;5(2).
47. Mubita K. Developing a localized school safety and health manual for Sefula Secondary School in Western Zambia. Lusaka: The University of Zambia; 2018.
48. Ikogho D, Onoharigho F. Bridging theory and practice: Insights into the experiences and support needs of student teachers during field practice. East Afr J Educ Stud. 2025;8(1):468–78.
49. Ogbonna R, Ekpo T, Asuquo A. Inadequate training and safety gadgets in African universities: Addressing the gaps. J Saf Manag. 2019;22(2):34–47.
50. Okafor C, Ibe N. Mentorship in safety education: Bridging the gap between theory and practice. J Occup Saf Health. 2021;16(3):89–101.
51. Bandura A. Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall; 1986.
52. Chau MY, Tin ST, McGregor D. Health promotion interventions integrating social cognitive theory in primary care: A scoping review. Front Med. 2023;10:912751.
53. Wong G, Greenhalgh T, Westhorp G, Buckingham J, Pawson R. Applying social learning theories to health professions education: A systematic review. BMC Med Educ. 2022;22(1):10070720.