Assessment of Fire Safety Awareness and Practices in Students' Halls of Residence in Selected Federal Universities in South West Nigeria

[1*]Jobi A. [2]Okunola S., [2]Ogunbodede B. & [3]Ekpo E.S.
[1]Department of Interior Architecture & Design, University of Lagos, Lagos
[2]Department of Architecture, University of Lagos, Lagos
[3]Architecture and Urban Research Hub, University of Lagos, Lagos
[*]Corresponding author: ajobi@unilag.edu.ng

Received: 14/11/2025 **Revised:** 1/12/2025 **Accepted:** 15/12/2025

Fire outbreaks frequently occur in residential buildings; however, incidents in student halls of residence at Nigerian universities are particularly catastrophic due to the loss of lives and property associated with their multi-occupancy nature. Critical fire safety issues, including lifestyle choices, attitudes, behaviours, and fire safety education, remain insufficiently addressed in student housing. This study, therefore, assessed fire safety awareness and practices among students residing in halls of residence at selected federal universities in Southwest Nigeria. A survey was conducted using questionnaires administered to 617 participants, selected through stratified sampling from 17 halls of residence across four federal universities. Descriptive statistical analysis indicated that, despite the risk posed by frequent use of electrical appliances such as irons and hot plates, fire safety practices were rated moderately high (MS=3.55, SD=1.1313). This was primarily attributed to residents unplugging electrical appliances when not in use, although more than one-third (35.3%) reported cooking in their rooms. In contrast, overall fire safety awareness (MS=2.84, SD=0.4275) was average, with only about half of respondents aware of fire safety instructional notices, posters, or flyers in the halls of residence. These findings highlight the necessity for targeted fire safety drills and education for hostel residents to facilitate more effective responses during fire emergencies.

Keywords: Fire safety awareness, fire safety practices, students' halls of residence, Federal Universities, campus safety

Introduction

Fire safety refers to measures taken to minimize the risk of harm to life and property from fire incidents in buildings. Awareness and adherence to fire safety practices are essential to preventing fires. Many fire outbreaks result from negligence and are therefore preventable. This highlights the importance of assessing whether people are well-informed about the fire safety measures available to them to prevent or address fires when they occur (Ackah *et al.*, 2025). Fire outbreaks in student hostels have resulted in significant disruptions to academic activities, as well as substantial damage to buildings, loss of life, and destruction of students' belongings. Notable incidents have occurred in hostels such as Bakasi at Yaba College of Technology, Lagos, Madam Tinubu Hall at the University of Lagos, and a male hostel at Universiti Utara Malaysia (Tijani, 2014; The Sun, 2016; Bernama, 2021). Students' halls of residence as noted by AlWaqfi *et al.* (2022) are a unique housing type due to their capacity to accommodate large numbers of students, highlighting the need for a comprehensive examination of the factors contributing to the prevalence of fire outbreaks in these settings.

Anyanwu *et al.* (2016) posited that human factors, such as carelessness, negligence, and a lack of fire safety awareness, are the primary cause of most fire incidents in students' halls of residence. Also cited were cooking in non-designated areas, a nonchalant attitude among students toward turning off electrical appliances after use, overloaded wiring, loose wiring connections, and electrical repairs not carried out by competent hands. These assertions were corroborated by Nwaichi *et al.* (2023) who also found a link between fire outbreaks and the misuse of electrical and mechanical devices. Understanding fire safety requires consideration of three key factors: occupant characteristics, building characteristics, and fire characteristics. Despite this, the predominance of engineering-based research has led to a focus on building components, often overlooking the human element (Park, 2014). While previous studies have mainly focused on adequacies and effectiveness of fire safety measures available in student halls of residence, it is crucial to address the human factor, as fire outbreaks are significantly influenced by individual lifestyle choices, attitudes, and behaviours (Mu *et al.*, 2013; Gerges *et al.*, 2017; Oluwunmi, 2023; Daramola *et al.*, 2024). Accordingly, this study investigates students' knowledge, habits, and attitudes concerning fire safety awareness and practices in halls of residence and assesses their prevalence across federal universities in Southwest Nigeria.

Review of Related Literature

Fire prevention relies on two core principles: fire safety awareness and fire safety practices among building occupants. These principles inform both proactive strategies to prevent fire outbreaks and preparatory measures to limit fatalities and the spread of fire when incidents occur. The ability to avoid loss of life and property during a fire depends on residents' awareness and capacity to utilize available fire safety measures. However, studies on fire safety in high-rise buildings in Anand City (Makushita, 2013), shopping malls in Dar es Salaam (Kikwasi, 2015), and students' halls of residence in Accra (Agyekum *et al*., 2016; Owusu *et al*., 2024; Onyekwere *et al*., 2024) have consistently found that awareness of fire safety measures is relatively low, often because occupants are either unaware of the firefighting equipment provided or do not know how to use it.

Owusu *et al*. (2024) found that fire disaster preparedness and awareness among students residing in university hostels were low, primarily because most occupants did not prioritize fire safety or adopt proactive attitudes toward potential fire outbreaks. The study also revealed that students were often unaware of the location and availability of firefighting equipment and emergency exits in their hostels. This lack of preparedness is not unique to student hostels; similar findings have been reported in workplaces and commercial mall buildings (Hassanain *et al*., 2022; Chepkorir, 2025). These observations underscore the need to address factors that hinder fire safety awareness. Fire safety education is crucial for enabling occupants to recognize fires promptly and to understand the necessary actions to reach safety. This includes knowledge of existing safety provisions and the ability to use firefighting equipment to contain fires at an early stage (Nwaichi *et al*., 2023; Delaliarte *et al*., 2024).

Fire safety awareness involves disseminating information through both active and passive media. Passive fire safety education is effective due to its low cost and broad reach, utilizing methods such as displaying posters in public areas, distributing brochures, broadcasting commercials, posting information online, and using slogans on clothing. In contrast, active fire education consists of direct, interactive training, including instruction, presentations, and demonstrations, typically delivered to smaller groups by trained fire service personnel because of the significant resources required. Nevertheless, research indicates that direct engagement through active fire safety training is essential for effective fire safety management (Kachenje *et al*., 2010; Kikwasi, 2015; Zhang *et al*., 2022; AlWaqfi *et al*., 2022).

Research by Msumari (2010) and Agyekum *et al*. (2016) identified that certain practices, such as the use of electrical appliances like hot plates, electric frying pans, and toaster ovens, are prohibited in student hostels to prevent overloading extension cords, power strips, and outlets. These regulations aim to control cooking and smoking habits within halls of residence. The level of safety is also influenced by the extent to which the environment facilitates evacuation. In fire emergencies, occupants must evacuate to safe areas before hazardous conditions develop, often making rapid decisions based on their knowledge and initial cues. This underscores the value of a prevention-focused approach for fire and rescue services, highlighting the importance of public education regarding fire causes, dangers, and mitigation strategies (Delaliarte *et al*., 2024). Studies revealed that individuals unfamiliar with a building often attempt to exit through the same route they entered, even when an emergency exit is closer (Park, 2014). This behaviour may be influenced by the complexity of architectural spaces, where factors such as the number of floors, floor area, building shape, and the locations of exits and stairwells affect occupants' ability to identify alternative escape routes if their usual path is blocked during a fire.

Research Methodology

Data were collected using the multi-stage sampling technique, in which the first stage employed purposive sampling to select four of the six federal universities located in the Southwest, Nigeria, namely: the University of Ibadan, the University of Lagos, Obafemi Awolowo University, Ile-Ife, and the Federal University of Technology, Akure. At the hall level, using stratified random sampling, seventeen (17) of the thirty-five (35) undergraduate halls of residence in the selected universities formed the study's sample frame. At the respondent level, a systematic sampling technique based on room number was used to select respondents from the halls of residence. The sample size of 800 rooms was determined from a total of 5,367 rooms in the selected halls of residence, representing approximately 15% of the total. One respondent was selected from each room. Ultimately, the study analysed data from 617 respondents who returned completed questionnaires, yielding a 77% response rate, as shown in Table 1.

Table 1: Distribution of Respondents based on their University

University	Frequency	Percent	Valid Percent	Cumulative percent
University of Lagos (UNILAG)	252	40.8%	40.8%	40.8%
University of Ibadan (UI)	185	30.0%	30.0%	70.8%
Obafemi Awolowo University (OAU)	160	26.0%	26.0%	96.8%
Federal University of Technology Akure (FUTA)	20	3.2%	3.2%	100.0%
Total	617	100.0%		

A cross-sectional survey was conducted during the second semester to ensure that respondents had at least one semester of residence in their current halls, as hostel occupancy is limited to one session. Data were collected using closed, structured, self-administered questionnaires to maximize reach among hall occupants. The collected data were analysed using descriptive statistics, including frequency distributions, percentages, crosstabulations, and mean scores, to assess the extent of fire safety awareness and practices among students. The study focused exclusively on undergraduate students residing in hostels within federal-owned tertiary institutions in Southwest Nigeria, where halls of residence were purpose-built for student accommodation on university campuses.

Results and Discussion

Demographic characteristics

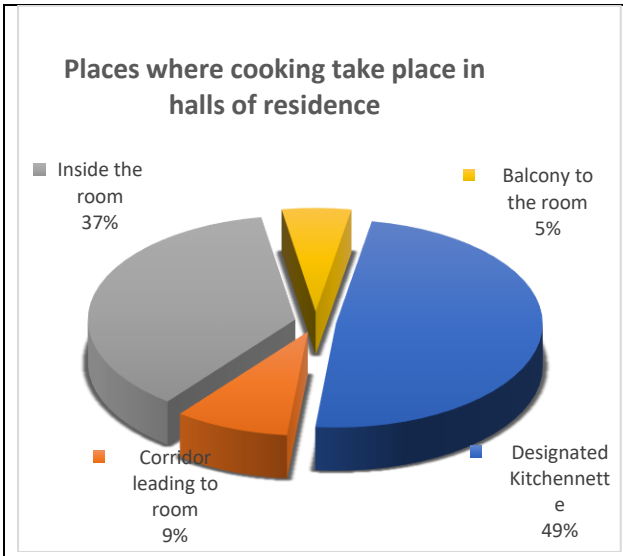
Analysis of the demographic characteristics of respondents, as presented in Table 2, indicated that 51.4% were male and 48.6% were female. A significant majority (97.2%) were single. Most respondents (76.4%) were aged 15–21 years, and the majority (80.1%) were in their first to third year of study, with smaller proportions in their fourth (13.5%) and fifth (6.4%) years.

Table 2: Demographic Characteristics of Respondents

Characteristics		Frequency (percentage)
Gender	Male	317 (51.4%)
	Female	300 (48.6%)
Marital Status	Single	600 (97.2%)
	Married	14 (2.3%)
	Others	3 (0.5%)
Age (Years)	15-18	188 (30.5%)
	19-21	283 (45.9%)
	22-25	120 (19.4%)
	Above 25	26 (4.2%)
Level of Study	100	171 (27.7%)
	200	177 (28.7%)
	300	146 (23.7%)
	400	83 (13.5%)
	500	40 (6.5%)

Fire hazards in halls of residence

This study examined fire safety awareness and practices among occupants of university halls of residence. Findings indicated that students frequently engage in behaviours that pose fire hazards: 38% predominantly use electric irons in their rooms, and over one-third (37.3%) cook in their rooms, while only 49.2% report cooking in designated kitchenettes. Among those cooking in their rooms, 29% use electric hot plates, highlighting a potential fire risk due to the misuse of electrical appliances. These results align with previous studies that found the use of certain electrical appliances, such as hot plates, is prohibited in student hostels to prevent fire outbreaks (Msumari, 2010; Agyekum *et al*., 2016; AlWaqfi *et al*., 2022; Dauda *et al*., 2025).



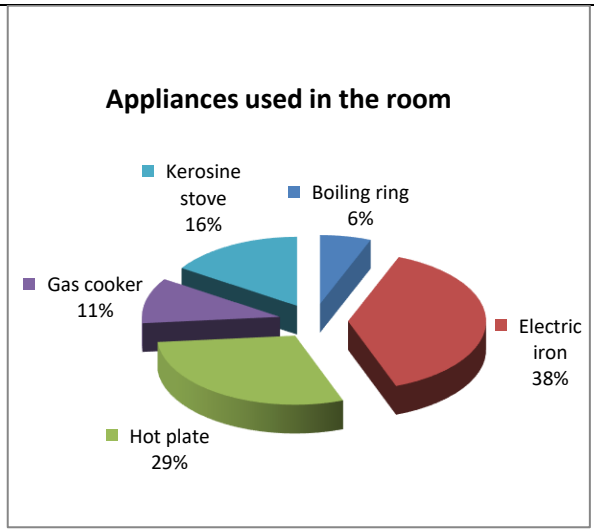


Figure 1: Fire Hazard Activities in Students' Halls of Residence

Residents' fire safety practices

The study found that electric irons and hot plates were the primary appliances used by students in the halls of residence. The analysis also considered whether repairs were conducted on faulty electrical wiring and appliances, as well as students' attitudes toward unplugging appliances when not in use. Results showed that 62.6% of respondents reported unplugging electrical appliances when not in use, a practice most common among students at the University of Ibadan (MS=3.89) and University of Lagos (MS=3.67). However, only 46.7% indicated that repairs are regularly performed on faulty wiring or appliances, with the lowest repair rates observed at Obafemi Awolowo University (MS=2.68). Overall, fire safety practices were rated moderately high (MS=3.55, SD=1.1313), primarily due to the widespread practice of switching off appliances when not in use and monitoring cooking appliances during operation.

Table 3: Fire Safety Practices

	Name of University				Total
	UNILAG	UI	OAU	FUTA	
Are repairs often carried out on faulty or damaged electrical wirings / fittings					
Not Very often	13 (20.0%)	12 (18.5%)	38 (58.5%)	2 (3.1%)	65 (10.5%)
Not often	35 (37.6%)	29 (31.2%)	26 (28.0%)	3 (3.2%)	93 (15.1%)
Don't know	69 (40.4%)	34 (19.9%)	58 (33.9%)	10 (5.8%)	171 (27.7%)
often	106 (52.2%)	69 (34.0%)	25 (12.3%)	3 (1.5%)	203 (32.9%)
very often	29 (34.1%)	41 (48.2%)	13 (15.3%)	2 (2.4%)	85 (13.8%)
Mean Score (MS)	3.41	3.53	2.68	3.00	MS = 3.24, SD = 1.181
Pearson Chi-Square	χ^2 =88.646, df = 12, p= 0.000				
Electrical appliances in my room are unplugged when not in use					
Strongly Disagree	13 (48.1%)	7 (25.9%)	5 (18.5%)	2 (7%)	27 (4.4%)
Disagree	29 (39.2%)	18 (24.3%)	26 (35.1%)	1 (1.4%)	74 (12.0%)
Neutral	52 (40.0%)	28 (21.5%)	44 (33.8%)	6 (4.6%)	130 (21.1%)
Agree	93 (41.9%)	67 (30.2%)	55 (24.8%)	7 (3.2%)	222 (36.0%)
Strongly Agree	65 (39.6%)	65 (39.6%)	30 (18.3%)	4 (2.4%)	164 (26.6%)
Mean Score (MS)	3.67	3.89	3.49	3.50	MS = 3.68, SD = 1.119
Pearson Chi-Square	χ^2 =22.955, df = 12, p= 0.028				

Do you keep an eye on these cooking appliances (stove/cooker/Hot plate) when in use					
Strongly Disagree	13 (36.1%)	9 (25.0%)	14 (38.9%)	0 (0%)	36 (5.8%)
Disagree	16 (43.2%)	8 (21.6%)	13 (35.1%)	0 (0%)	37 (6.0%)
Neutral	62 (43.2%)	25 (17.5%)	48 (33.6%)	8 (5.6%)	143 (23.2%)
Agree	100 (42.0%)	81 (34.0%)	50 (21.0%)	7 (2.9%)	238 (38.6%)
Strongly Agree	61 (37.4%)	62 (38.0%)	35 (21.5%)	5 (3.1%)	163 (26.4%)
Mean Score (MS)	3.71	3.97	3.49	3.60	MS = 3.74, SD = 1.093
	Pearson Chi-Square	χ^2 =29.578, df = 12, p= 0.003			
	OVERALL	**MS = 3.55, SD = 1.131**			

Cross-tabulation in Table 4 revealed a statistically significant relationship (χ**2**=34.700, df=4, p=0.000) between monitoring cooking appliances and the location of cooking. Specifically, 76.9% of respondents cooking in designated kitchenettes reported keeping an eye on their appliances, compared to 58.8% of those cooking elsewhere in the halls. This suggests that, regardless of cooking location, most respondents monitor their appliances, which may have contributed to the low incidence of fire outbreaks despite the risks associated with cooking in rooms.

Table 4: Cooking in Designated Kitchenette and Keeping Watch When Cooking

		I keep my eyes on the cooking appliance when in use					
		Strongly disagree	disagree	neutral	agree	Strongly agree	Total
Do you carry out your cooking in the designated kitchenette in the hall	Yes	11	12	44	125	97	289
		3.8%	4.2%	15.2%	43.3%	33.6%	46.8%
	No	24	20	91	102	91	328
		7.3%	6.1%	27.7%	31.1%	27.7%	53.2%
Pearson Chi-square		χ^2 =34.700, df = 4, p= 0.000					

Residents' fire safety awareness

Fire safety awareness depends on occupants' knowledge, experience, and familiarity with the building, which informs their understanding of fire risks associated with various activities in their living environment. This includes the ability to recognize fire hazards, implement preventive measures, and respond appropriately during a fire (Agyekum *et al*., 2016). In this study, fire safety awareness was measured by respondents' knowledge of available fire prevention measures, including awareness of instructional notices, posters, or flyers in the halls of residence, knowledge of exit routes, and responses to fire escape scenarios.

The study revealed that the overall fire safety awareness (MS=2.84, SD =0.4275) was on the average as 51.3% of the respondents are not aware of any fire safety instructional notices, posters or flyers in the halls of residence compare to 35.0% that do, with more than half of the respondents residing in all the university hostels in the study area claiming not to be aware fire safety instructional materials. This, coupled with the fact that the percentage of respondents that know the location of escape routes in the hall (39.0%) was almost the same as those who do not know (36.6%), suggests that the situation seems more serious, as 24.3% of them are not sure they know the location of the escape routes in the halls of residence.

The study therefore confirms that about half of the respondents were aware of the presence of fire safety educational materials such as fire safety posters or flyers, signages of fire escape routes placed or displayed in various prominent places in the halls, and this is consistent with previous findings (Agyekum *et al*., 2016; AlWaqfi, *et al*., 2022) that also affirmed the low level of fire safety awareness among students residing in universities' hostels. This low level of fire safety awareness was also common among users of shopping malls and high-rise buildings, which was attributed to the non-availability or visibility of such fire safety instructional notices in prominent places (Makushita, 2013; Rahim *et al*., 2014; Kikwasi, 2015)

Table 5: Fire Safety Awareness

	Name of University				Total
	UNILAG	UI	OAU	FUTA	
Are you aware of fire safety instructional notices, posters or flyers in the hall					
Strongly Disagree	58 (40.8%)	42 (29.5%)	37 (26.0%)	5 (3.5%)	142 (23.0%)
Disagree	67 (38.3%)	46 (26.3%)	54 (30.9%)	8 (4.5%)	175 (28.3%)
Neutral	37 (44.1%)	32 (38.1%)	13 (15.5%)	2 (2.3%)	84 (13.6%)
Agree	50 (41.6%)	36 (30.0%)	32 (26.7%)	2 (1.7%)	120 (19.4%)
Strongly Agree	40 (41.7%)	29 (30.2%)	24 (25.0%)	3 (3.1%)	96 (15.6%)
Mean Score (MS)					MS = 2.70,
	2.79	2.81	2.70	2.5	SD = 0.740
	Pearson Chi-Square	χ^2 =35.199, df = 12, p= 0.000			
I know the location of the escape route in this hostel in case of a fire outbreak?					
Strongly Disagree	47 (44.8%)	25 (23.8%)	30 (28.6%)	3 (2.9%)	105 (17.0%)
Disagree	41 (33.9%)	32 (26.4%)	45 (37.2%)	3 (2.5%)	121 (19.6%)
Neutral	53 (35.3%)	42 (28.0%)	49 (32.7%)	6 (4.0%)	150 (24.3%)
Agree	89 (54.6%)	55 (33.7%)	13 (8.0%)	6 (3.7%)	163 (26.4%)
Strongly Agree	22 (28.2%)	31 (39.7%)	23 (29.5%)	2 (2.6%)	78 (12.6%)
Mean Score (MS)					MS = 2.98
	2.99	3.19	2.71	3.05	SD = 1.284
	Pearson Chi-Square	χ^2 =49.037, df = 12, p= 0.000			
	OVERALL	**MS = 2.84, SD = 0.427**			

Conclusion

The study focused on the human component of fire safety management by examining fire safety practices and awareness among students residing in halls of residence at federal universities in the Southwest, Nigeria, given the high occupancy in university halls of residence, which makes residents more vulnerable to fire hazards. Residents' practices and knowledge of proactive measures to prevent or suppress fires are fundamental to effective fire safety management. The study found that positive safety practices among occupants likely contributed to the low incidence of fire outbreaks in the halls of residence. However, persistent gaps in awareness and the presence of risky behaviours indicate a need for targeted interventions by university authorities.

References

Ackah, B., Amoa-Ampah, N., Oduro, S., Danso, A., & Baah, B. (2025). Residential fire safety in Ghana: a comprehensive analysis of fire incident causes, user attitudes and safety compliance. *Property Management* https://doi.org/10.1108/PM-09-2024-0104

Agyekum, K., Ayarkwa, J. & Opoku, D. J., (2016). Fire Safety Awareness and Management in Multi-Storey Students' Hostels. *Asian Journal of Applied Sciences, 2*(4).

AlWaqfi, A. S., Guan, N. Y., Ying, L. P. & Tamrin, S. B. (2022). Factors Associated with Knowledge, Attitude and Practices on Fire Safety and Its Prevention Among Hostel Occupants in a Higher Learning Institution. *Malaysian Journal of Medicine and Health Sciences,*18(9), 8-20.

Anyanwu, B. O., Akaranta, O, & Nwaogazie, I. L (2016). Evaluation of Fire Safety Management in a Higher Education Institution: A Case Study of the University of Port Harcourt. *Archives of Current Research International,* 4(4), 1-13

Bernama (2021, July 20). Kedah bomba: Fire at UUM student hostel, four rooms damaged. *Malay Mail*. Retrieved https://www.malaymail.com/news/malaysia/2021/07/20/kedah-bomba-fire-at-uum-student-hostel-four-rooms-damaged/1991316.

Cheng, N. (2014, June 26). Fire breaks out at the IIUM campus. *The Star*. Retrieved from https://www.thestar.com.my/news/nation/2014/06/26/accident-fire-store-room.

Chepkorir, M. N. (2025). Public Awareness of Fire Safety Provisions in Commercial Malls and Its Influence on Preparedness. *Journal of Sociology in East and Horn of Africa.*1(1), 63-74.

Clark, A., Smith, J., & Conroy, C. (2014). Domestic fire risk: a narrative review of social science literature and implications for further research. *Journal of Risk Research*, 18(9), 1-17

Cvetković, I. M., Dragašević, A., Protić, D., Janković, B., Nikolić, N. & Miloš, P. (2022). Fire safety behaviour model for residential buildings: Implications for disaster risk reduction.

International Journal of Disaster Risk Reduction, 76, 15 June 2022.

Daily Sun (2016, November 23). .4 hospitalized as fire razes female hostel at Yabatech. *The Sun*. Retrieved from https://thesun.ng/fire-razes-female-hostel-at-yabatech/

Dauda, J. A., Yamusa, M. A., Oyegoke, A. S., Ajayi, S. O. & Saka, A. B. (2025). A Systematic Review of Building Fire Safety Practices in the UK: Approaches, Challenges and Recommendations. *FireTechnology*, 2025 – Springer.

Delaliarte, M., Linaugo, J. D. & Madrigal, D. V. (2024). Fire Safety Awareness and Practices of Science, Technology, Engineering, and Mathematics Students in a Philippine Public Secondary School. *Formatif: Jurnal Ilmiah Pendidikan MIPA*, 14(1), 175-188.

Gerge, M., Mayouf, M., Rumley, P. & Moore, D. (2017). Human Behaviour under Fire Situations in High-Rise Residential Buildings. *International Journal of Building Pathology and Adaptation*, 35(1), 90-106

Hassanain, M. A., Al-Harogi, M. & Ibrahim, A. M. (2022). Fire Safety Risk Assessment of Workplace Facilities: A Case Study. *Frontiers in Built Environment*, 8, Article 861662 doi: 10.3389/fbuilt. 2022.86166.

Kachenje, Y., Kihila, J., & Nguluma, H. (2010). Assessing Urban Fire Risk in the Central Business District of Dar es Salaam, Tanzania. *Jàmbá: Journal of Disaster Risk Studies*, 3(1), 321-334.

Kikwasi, G. J. (2015). A Study on the Awareness of Fire Safety Measures for Users and Staff of Shopping Malls: The Case of Mlimani City and Quality Centre in Dar es Salaam. *Journal of Civil Engineering and Architecture*, 9, 1415-1422

Makushita, Y. D. (2013). A Study on Awareness regarding Fire Safety Measures among 20 Residents Living in High-Rise Buildings of Anand City. *GUJ: International Multidisciplinary Journal of Applied Research*, 1(4), 84-88.

Msumari, J. (2010). *Assessment of Effectiveness of Fire Safety Programs in Public University Hostels.* Unpublished dissertation, Ardhi University, Tanzania.

Mu, H. L., Wang, J. H., Mao, Z. L., Sun, J. H., Lo, S. M. & Wang, Q. S. (2013). Pre-evacuation Human Reactions in Fires: An Attribution Analysis Considering Psychological Process

Nwaichi, P. I.; Ali, M. W.; Aule, T. T.; Aja, A. A. & Nwaichi, E. (2023). Framework for Fire Safety Management of Hotels in Nigeria: A Structural Equation Modelling Approach. *International Journal of Built Environment and Sustainability*, 10(2), 39-51.

Oluwunmi, A. O. (2023). A Review of Fire Outbreaks in Government Buildings in Nigeria: Causes and Remedies. *Tropical Journal of the Built Environment (TJOBE)*, 4 (1), 63-76

Owusu, D., Opoku, D. & Essilfie, R. K. (2024). Awareness Level of Fire Safety Provisions in Students' Accommodations on KNUST Campus. *Journal of Science and Technology (Ghana)*, *42*(3), 81–93. https://doi.org/10.4314/just.v42i3.7

Park, H. (2014). *Development of a holistic approach to integrate fire safety performance with building design*. A PhD Thesis, Department of Protection Engineering, Worcester Polytechnic Institute.

Rahim, N. A., Taib, M., and Mydin, M. A. O. (2014). Investigation of Fire Safety Awareness and Management in a Mall. *MATEC Web Conferences* 10, 1-5.

Rubaratuka, A. (2013). Investigation of Provisions of Fire Safety Measures in Buildings in Dar es Salaam. *International Journal of Engineering and Applied Sciences*, 4(4), 40-45.

Tijani, M. (2014, October 12). Female Unilag Students 'fractured bones in the fire outbreak. *The Cable*. Retrieved from https://www.thecable.ng/news/2014/10/12/female-unilag-students-fracture-bones-in-fire-outbreak/

Yusof, F. M, Roshdi, F. R, Saharuddin, S, & Noor, S. A. (2021). Fire Safety Management in Malaysian Higher Educational Institutions *INTREST-International Journal of Real Estate Studies*, 15(1), 70-81.

Zhang, C., Hong, W. H., & Bae, Y. H. (2022). Fire Safety Knowledge of Firefighting Equipment among Local and Foreign University Students. *International Journal of Environmental Research and Public Health*. doi.org/10.3390/ijerph191912239.