



DAY-NIGHT VARIATIONS IN GENDERED FEAR PERCEPTION: A SPATIAL ANALYSIS OF CAMPUS FEARScape IN THE UNIVERSITY OF BENIN, EDO STATE, NIGERIA

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Abstract

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This study examines the spatial and temporal dynamics of gendered fear perception within the University of Benin campus environment using an Emo-Spatial framework. This conceptualises fear as both an emotional and spatial phenomenon shaped by interactions between people, place, and environmental conditions. Despite growing concern about campus safety, few studies have explored how fear is spatially distributed and experienced differently across gender and over time, particularly in developing contexts. The study investigates how fear varies across locations, gender, and day-night conditions, with emphasis on identifying fear hotspots and understanding the environmental factors influencing perceived insecurity. A quantitative spatial approach was adopted involving 387 campus users, including students, staff, residents, transport operators, farmers, and commercial operators. Data were collected using structured questionnaires and video-based assessments of 35 selected campus locations under daytime and night-time conditions. Descriptive and inferential statistics, including independent-sample t-tests and effect size analysis, were combined with Geographic Information System techniques such as Inverse Distance Weighting (IDW), Fear Change Index (FCI), comparative surface analysis, and Moran's spatial autocorrelation, were conducted using ArcGIS 10.8. Findings reveal that fear perception is spatially clustered and significantly intensified at night. Female respondents consistently reported higher fear levels and wider spatial concentrations of perceived insecurity than males. Major fear hotspots were identified around Capito, Water Board axis, Blocks of Flats, Faculty of Engineering, hostel corridors, and movement pathways, where poor lighting, environmental enclosure, weak surveillance, and reduced pedestrian activity amplified vulnerability. Spatial autocorrelation showed significant clustering in female fear patterns, while the FCI revealed substantial night-time increases in fear across most locations. The study concludes that campus fear is a socially mediated and spatially produced phenomenon requiring gender-sensitive planning interventions, improved lighting, enhanced surveillance, and safer movement environments to promote spatial justice and campus safety.

Keywords: *Emo-Spatial Geography, Geography of Fear, Gendered Fearscape, Campus Safety, Spatial Fear Analysis.*

Introduction

Fear is not evenly distributed in space. It attaches itself to places, moments, and social identities. On university campuses, this unevenness becomes more visible. Students move through the same physical environment, yet experience it differently. Gender plays a central role in shaping these experiences. What feels safe to one group may feel threatening to another. This difference reflects

deeper social and spatial inequalities embedded within everyday environments, as widely noted in gendered fear literature (Johansson & Haandrikman, 2021; Lizárraga et al., 2025).

University campuses are often imagined as controlled and secure environments. Yet, this assumption does not always hold. Pockets of vulnerability exist within pathways, hostels, lecture zones, and transitional spaces (Egharevba & Osakue, 2025; Prada-Trigo et al., 2025). These areas may not be inherently dangerous, but they are perceived as such. Perception, in this context, shapes behaviour, movement, and access to space. Studies have shown that fear can lead to avoidance of certain routes and restriction of daily activities, even in relatively safe environments (Tandogan & Ilhan, 2016; Kaufman, 2024). This is where the concept of fearscape becomes useful. It captures how fear is spatially organised and socially experienced across a landscape.

Fear is not only about crime. It is also about anticipation, memory, and environmental cues. Poor lighting, isolation, and limited visibility can heighten anxiety (Malinowska-Borowska et al., 2026). These conditions rarely affect all users equally. Empirical studies demonstrate that women consistently report higher fear levels, particularly at night, and tend to focus on environmental risks beyond immediate pathways (Chaney et al., 2024; Jamtsho, 2021). Male perceptions, by contrast, are often shaped by different social expectations and interpretations of risk (Day, 2001). The question then becomes clear. How do these gendered perceptions map onto space, and how do they change over time?

Gender adds another critical layer. Women's fear of crime is shaped not only by vulnerability but also by broader social inequalities and power relations (Mehta, 2010; Valentine, 1989; Pain, 2000). Female students often adopt precautionary behaviours such as avoidance, route modification, and time-based restrictions, which limit their spatial freedom (Prada-Trigo et al., 2025; Loda & Coconi, 2024). At the University of Benin, such patterns alter study habits and restrict mobility. The body becomes a site where autonomy, safety, and fear intersect. Addressing fear therefore becomes part of addressing gendered inequities and promoting spatial justice.

This study introduces an Emo-Spatial (Emotion and Space) perspective to address this issue. Emo-Spatial thinking recognises that emotions are grounded in spatial contexts and shaped by environmental interactions. Fear is therefore both an emotional and spatial phenomenon. It emerges through the interaction between individuals and their environments. Recent studies have emphasised the need to conceptualise fear as dynamic, situational, and embedded within everyday spatial experiences rather than as a static condition (Solymosi et al., 2015; Brands et al., 2025). By linking emotion to space, this study moves beyond simple description to examine how fear is produced and experienced differently across gender and time.

Much of the existing research on campus safety treats fear as a generalised condition. It often overlooks fine-grained spatial differences within campuses. Even when gender is considered, the analysis tends to remain descriptive. There is limited attention to how fear varies across specific locations or shifts between day and night. More importantly, spatial analytical techniques are underutilised. Without this spatial lens, identifying precise areas of concern becomes difficult. Recent studies have called for micro-scale, spatially explicit approaches that integrate environmental and temporal variables in fear analysis (Solymosi et al., 2015; Huang et al., 2022).

Recent work by Egharevba and Osakue (2025) begins to address this gap by demonstrating that fear on campus is spatially produced and environmentally reinforced. Their findings highlight significant night-time hotspots and show that environmental and locational factors explain fear more effectively than demographic variables. However, the gendered dimension of these spatial patterns remains

insufficiently unpacked. Other studies similarly note that while spatial and environmental factors are important, gendered experiences and interpretations of these conditions require deeper analysis (Arvanda et al., 2019; Jacobsen, 2018).

The gap is therefore clear. There is a need for a spatially grounded, gender-sensitive analysis of fear that captures both location-specific variations and temporal dynamics. This study responds to that need by focusing on the University of Benin as a case study. By examining 35 selected locations across the campus, the research generates a detailed fearscape that reflects both gender differences and day–night transitions. The aim is not only to map fear but to understand its structure and implications.

To achieve this, the study is guided by a set of interrelated questions that probe the emo-spatial and social dimensions of fear within the University of Benin. It examines how gender shapes fear perception across locations, how these perceptions differ spatially between male and female students, how fear shifts between day and night, and how spatial patterns of fear cluster within the campus environment. These questions move the study beyond surface observation. They push towards a structured understanding of how fear operates within space. The answers will not only reveal where fear is concentrated, but also why certain areas become more sensitive to gender and time.

Fear in contemporary society is not accidental. It is cultivated within a broader culture of risk awareness and self-regulation. Modern life encourages individuals to anticipate danger, manage exposure, and minimise vulnerability (Olstead, 2011; O'Malley & Mugford, 1994). This constant negotiation produces a social environment where safety becomes a central concern (Bauman, 2000; Furedi, 2002). Yet, fear is not evenly distributed. It is structured by gender, space, and everyday experience.

Fear does not exist in isolation. It is embedded in social relations and identity formation. Feminist scholarship shows that fear is shaped through gendered power structures and embodied experiences (Mehta, 2010). Women interpret space through a lens of vulnerability, while men often construct identities in contrast to this perceived vulnerability (Day, 2001). This produces what scholars describe as a fear-gender gap, where women consistently report higher fear levels despite lower victimisation rates (Johansson & Haandrikman, 2021; Jacobsen, 2018).

It is not simply about crime. It is about meaning. Social expectations, moral regulation, and gendered “feeling rules” shape how fear is experienced and expressed (Hochschild, 1979; Donnelly, 2004; Laurendeau, 2008). Even risk-taking behaviour reflects this tension, as individuals negotiate identity, responsibility, and fear within socially defined boundaries (Butler, 1990; Lefebvre, 1991).

Fear is spatial. It is produced through interaction with the built environment. Urban studies consistently show that environmental cues such as lighting, visibility, enclosure, and activity levels shape perceptions of safety (Day, 2001; Huang et al., 2022; Garfias et al., 2020). Spaces with poor surveillance, physical obstacles, and restricted mobility amplify fear, particularly among women.

The same space does not mean the same thing to everyone. Women often interpret environmental cues as signals of potential threat, while men focus on movement and navigation (Chaney et al., 2024). This difference produces distinct spatial behaviours. Women avoid certain routes, limit mobility, and adopt precautionary strategies (Prada-Trigo et al., 2025; Loda & Coconi, 2024).

Campus environments reflect this pattern. Although often perceived as safe, they contain micro-spaces of vulnerability shaped by design, access, and social interaction (Arvanda et al., 2019; Ngo et

al., 2014). Threshold areas, isolated corridors, and poorly maintained zones emerge as fear-inducing environments.

Fear is not static. It shifts across time. Research shows clear diurnal patterns, with fear intensifying at night due to reduced visibility, lower activity, and uncertainty (Solymosi et al., 2015; Steinmetz, 2023). Darkness alters spatial meaning. Familiar places become ambiguous and potentially threatening.

This temporal shift is strongly gendered as women experience sharper increases in fear at night, often restructuring their routines to avoid exposure (Lizárraga et al., 2025; Keel et al., 2025). Night-time economies and campus environments amplify this effect, as ambiguity and unpredictability heighten perceived risk (Brands et al., 2025). Thus, the implication is clear. Fear is a moving target. It changes with time, context, and social positioning.

Fear does not remain internal. It reshapes behaviour. It limits movement, alters routes, and constrains participation in public life (Tandogan & Ilhan, 2016). Women, in particular, adjust their spatial practices, avoiding perceived danger zones and relying on precautionary strategies (Kaufman, 2024).

This behavioural dimension is critical as fear operates through a feedback loop. Perceived risk leads to avoidance, which reinforces spatial inequality and exclusion (Rader, 2004; Jackson, 2006). Over time, this produces uneven access to space, opportunities, and social interaction. In university settings, this translates into reduced mobility, limited academic engagement, and emotional stress (Enwere, 2026).

When faced with the question, can design solve fear? The literature suggests a cautious answer. Environmental interventions such as improved lighting, removal of visual barriers, and enhanced surveillance can influence safety perception (Navarrete-Hernandez et al., 2021; Pablo et al., 2021). However, their effects are not uniform. The meaning of design features varies across users and contexts.

This has introduced a key tension. Some scholars argue that safety is increasingly individualised, with institutions shifting responsibility to users (Roberts, 2023). Others highlight the importance of inclusive and gender-sensitive planning that recognises diverse experiences (Sipahi, 2022). In any case, design matters, but it cannot be separated from social context.

Recent studies move beyond general perceptions to examine how fear clusters spatially. Techniques such as heat mapping and spatial analysis reveal concentrated “fear hotspots” shaped by environmental and social factors (Garfías et al., 2020; Egharevba & Osakue, 2025).

Thus, it can be said that these hotspots are not random. They emerge where poor design intersects with social vulnerability. Areas with weak lighting, limited surveillance, and ambiguous territorial control consistently attract higher fear levels. Importantly, these clusters shift between day and night and differ across gender groups. Therefore, this raises an important question. If fear clusters in space, can it be predicted and managed?

Synthesis and Research Gap

The literature converges around three interrelated insights. Fear is not randomly distributed. It is socially structured, spatially produced, and temporally conditioned. Gender plays a central role, as fear reflects socialisation processes, unequal power relations, and lived experience, which consistently position women as more vulnerable in public and semi-public spaces (Pain, 2000;



Johansson & Haandrikman, 2021). At the same time, space does not operate as a passive backdrop. Environmental features such as lighting, visibility, enclosure, and disorder actively communicate signals about safety and risk, shaping how individuals read and respond to different locations (Huang et al., 2022; Garfias et al., 2020). These interpretations are not uniform. They are filtered through social identity, meaning that the same environment can produce different degree of emotional responses across users. Time further intensifies this process. Night-time conditions amplify uncertainty, reduce visibility, and heighten perceived vulnerability, leading to stronger emotional reactions, particularly among female users (Solymosi et al., 2015; Brands et al., 2025).

What emerges from this interaction is not simply variation in perception, but the production of emotion within space. Fear becomes an outcome of how spatial cues are interpreted through gendered experience under specific temporal conditions. Yet, most studies treat these dimensions in isolation, limiting their explanatory depth. This study addresses that gap by integrating gender, spatial conditions, and temporal shifts into a unified framework. It explains how fear is generated, distributed, and experienced across campus space, revealing why certain locations become more sensitive to gender and time.

Theoretical and Conceptual Framework

This study was underpinned by Defensible Space Theory, Feminist Geography, and the proposed Emo-Spatial Framework, which together provide a comprehensive explanation of the environmental, social, and emotional processes that shape fear within university environments. The integration of these perspectives enabled the study to explain not only where fear occurs, but also why it varies across locations, between genders, and over time.

Defensible Space Theory, developed by Newman (1972), provided the environmental foundation for the study by explaining how the physical design and organisation of space influence perceptions of safety and vulnerability. The theory argues that environmental characteristics such as territoriality, natural surveillance, image, and milieu shape users' perceptions of security by influencing visibility, guardianship, and opportunities for crime (Armitage, 2016; Armitage & Thompson, 2022; Cozens & Sun, 2019; Prenzler, 2024; Reynald, 2015). Empirical evidence further demonstrates that environmental attributes including poor lighting, limited visibility, spatial enclosure, and restricted escape routes significantly heighten fear perception (Shariati & Guerette, 2019; Steinmetz & Austin, 2014). While the theory effectively explains how environmental conditions generate fear, it provides limited insight into why individuals interpret identical spaces differently, particularly across gender.

This limitation is addressed by Feminist Geography, which conceptualises space as socially produced and experienced through unequal power relations and gendered lived experiences (Djan, 2024; Mollett & Faria, 2018; Rodó-de-Zárate & Baylina, 2018; Wrede, 2015). Rather than viewing fear as merely an outcome of environmental conditions, Feminist Geography argues that emotional responses are mediated by social identity, embodied experience, and cultural expectations (Elledge, 2022; Hiemstra & Billo, 2017). Consequently, identical environments may evoke different perceptions of vulnerability among different users. Feminist scholars further contend that persistent fear contributes to spatial exclusion by restricting mobility, participation, and access to opportunities, particularly for women (Evans & Maddrell, 2019; Hopkins, 2018; Johnston, 2018; Wrede, 2015).

Building upon these complementary perspectives, the study advances the Emo-Spatial Framework, which conceptualises fear as a dynamic emotional response emerging through the interaction between environmental conditions, social experience, and temporal context. The framework draws upon emotional geography, which argues that emotions are produced through spatial interaction

rather than existing solely as psychological states (Bondi, 2017; Drozdowski et al., 2026; Maddrell, 2016; Smith et al., 2016). It further proposes that environmental characteristics such as lighting, enclosure, surveillance, activity levels, and visibility communicate emotional signals that users interpret differently according to their social identities and lived experiences (Kang et al., 2019; Schreuder et al., 2016). The framework also incorporates the Urban Emotions perspective, which recognises that planning and environmental analysis should account for human sensory and emotional responses to place (Zeile et al., 2015). In addition, the integration of emotional mapping techniques provides a basis for identifying and analysing spatial variations in fear across locations and time (Gardener et al., 2019; Guevara-Cue, 2025).

The integration of these three perspectives constitutes the principal theoretical contribution of this study. Defensible Space Theory explains how environmental characteristics create conditions for fear (Armitage, 2016; Cozens & Sun, 2019; Newman, 1972; Reynald, 2015), while Feminist Geography explains why those environmental conditions are experienced differently across gender (Hopkins, 2018; Rodó-de-Zárate & Baylina, 2018; Wrede, 2015). The Emo-Spatial Framework synthesises these perspectives by incorporating emotional geography, gender, environmental design, temporal variation, and GIS-based spatial analysis into a unified analytical model (Bondi, 2017; Drozdowski et al., 2026; Kang et al., 2019; Maddrell, 2016; Zeile et al., 2015). Consequently, fear is conceptualised as a spatially produced, socially mediated, and temporally conditioned phenomenon that can be measured, mapped, and analysed across campus environments. This integrated framework therefore provides a robust theoretical basis for understanding campus fearscape and informing gender-sensitive planning and environmental interventions. See Figure 1 the emo-spatial framework for gender fear perception.

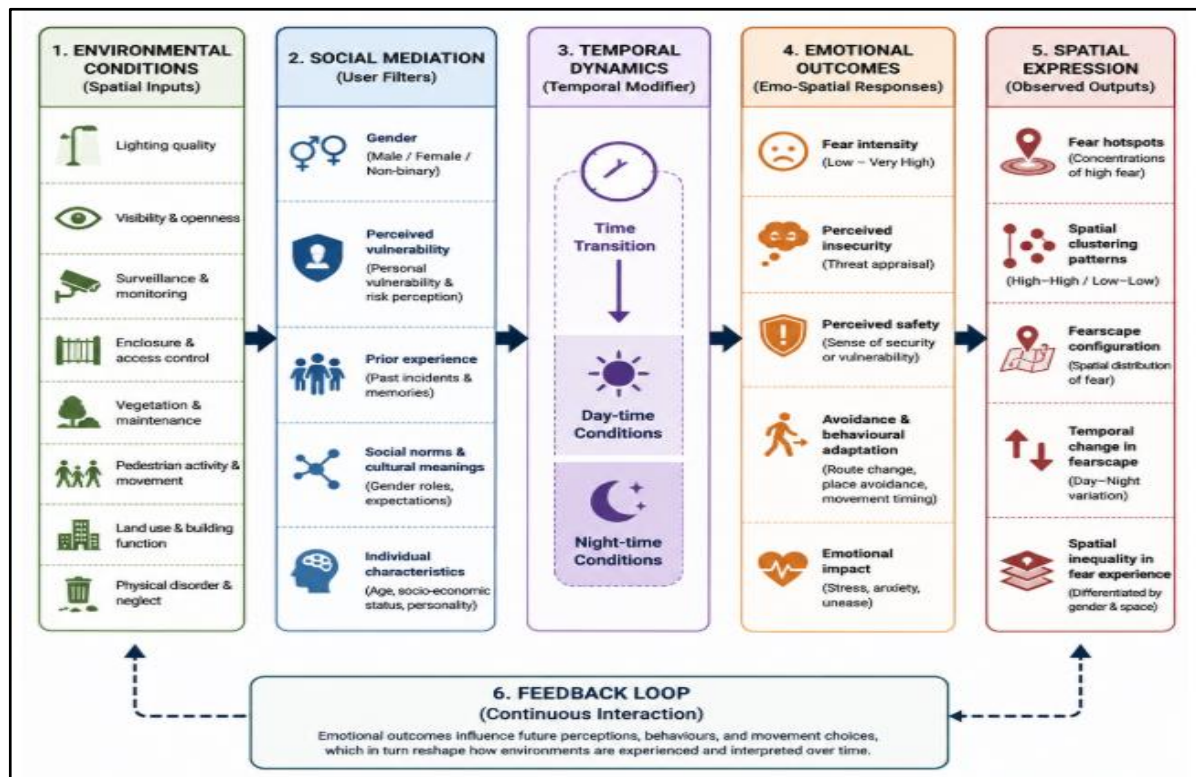


Figure 1: Emo-Spatial Framework for Gendered Fear Perception Across Day and Night Conditions
Source: Author's Computation (2026)

Emo-Spatial Component	Variables
Environmental Conditions	Lighting, visibility, enclosure, vegetation
Spatial Organisation	Corridors, hostels, movement pathways
Temporal Dynamics	Day/night transition
Social Mediation	Gender, perceived vulnerability
Emotional Outcome	Fear intensity
Spatial Expression	Hotspots, clustering, fearscales

Source: Author (2026)

Study Area

The study is situated at the University of Benin (UNIBEN), located between latitudes 6°23'30"N and 6°24'30"N, and longitudes 5°36'30"E and 5°38'0"E. The institution spans two local government areas, Egor and Ovia North East, within Benin City, Edo State, Nigeria. It lies along the Benin-Lagos expressway, a position that places it at the intersection of academic activity and urban movement. The terrain is largely flat, with a mix of dense built-up areas, open spaces, and scattered vegetation shaping its physical form. The campus is bounded by Ekosodin community to the north, the University of Benin Teaching Hospital to the south, the Edo Development Property Agency Estate to the west, and Ekiuwa and Edosowan communities to the east (Egharevba & Osakue, 2025).

Established in 1970 as the Institute of Technology, the university gained full status in 1971 and was renamed in 1972. It soon became a federal institution and has since developed into one of Nigeria's major public universities. Its academic structure covers a wide range of disciplines, including Arts, Agriculture, Education, Engineering, Law, Life Sciences, Pharmacy, Physical Sciences, Social Sciences, Environmental Sciences, and the College of Medical Sciences. The main campus at Ugbowo accommodates most faculties and administrative units and supports a student population of about 46,000, alongside several thousand academic and non-academic staff. Additional campuses, such as Ekenhuan and the College of Petroleum and Gas Engineering in Effurun, extend its institutional reach beyond the core site.

The university functions as more than a place of learning. It operates as a complex urban environment with overlapping academic, residential, and commercial activities (Egharevba & Osakue, 2025). Daily life on campus is sustained by transport systems, small-scale businesses, service centres, and informal interactions that shape movement and use of space. This mix creates varied spatial conditions, from highly active corridors to isolated and less monitored areas. Such variation provides a suitable context for examining how environmental features, social identity, and time interact to produce different patterns of fear. In that sense, UNIBEN offers a compact but revealing setting for understanding how fear is distributed, experienced, and reproduced within institutional space.

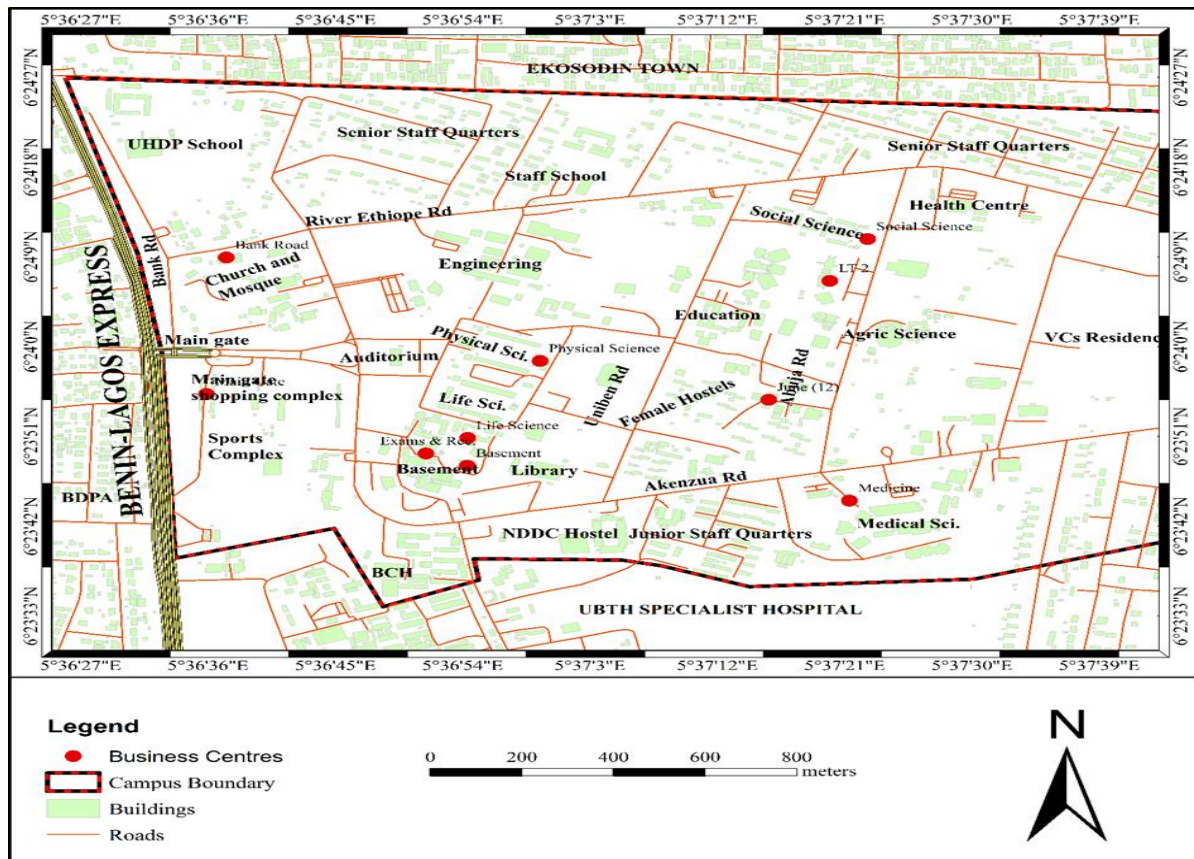


Figure 2: University of Benin

Source: Open Street Map and Edited by Authors (2026)

Materials and Method

This study adopted a quantitative cross-sectional spatial research design to examine the gendered and temporal dynamics of fear perception within the University of Benin campus. The study integrated emotional geography with Geographic Information System (GIS)-based spatial analysis through the proposed Emo-Spatial framework, enabling fear to be measured, mapped, and analysed across locations, gender groups, and temporal periods. Fear perception data were collected using a structured questionnaire administered to 387 respondents, comprising students, academic and non-academic staff, shop operators, and shuttle drivers. The sample size exceeded the minimum recommended for large population perception studies, thereby ensuring adequate statistical confidence and representativeness (Martínez-Mesa et al., 2014). Respondents were proportionately distributed across the University's seventeen security zones to ensure comprehensive spatial coverage and minimise locational bias.

The research instrument underwent expert review and pilot testing to establish content validity and clarity. Reliability was assessed using Cronbach's alpha, with the coefficient exceeding the acceptable threshold of 0.70, indicating satisfactory internal consistency. Construct validity was strengthened through alignment of the questionnaire with the theoretical assumptions of Defensible Space Theory, Feminist Geography, and the Emo-Spatial framework. To improve consistency in environmental assessment, respondents viewed standardised ten-second video clips of thirty predetermined campus locations under both daytime and night-time conditions before rating their

perceived fear on a five-point scale. This video-assisted approach reduced perceptual bias arising from unequal familiarity with campus locations and has been recognised as an effective method for assessing environmental perception and emotional responses to place (Zhao et al., 2024).

Sampling followed the operational zoning system of the University of Benin Security Unit using systematic sampling, where every third eligible individual encountered within each security zone was selected. This approach ensured proportional representation across academic, residential, commercial, and transport environments. Fear perception was operationalised as respondents' perceived vulnerability and insecurity within specific campus environments, while GPS coordinates and field observations were collected to support spatial referencing and environmental interpretation.

Data analysis combined descriptive, inferential, and spatial analytical techniques. Descriptive statistics, including frequencies, percentages, means, and standard deviations, summarised fear perception across locations and temporal periods. Independent-samples *t*-tests examined gender differences in fear perception, while Cohen's *d* and Hedges' correction assessed the practical significance of observed differences. Spatial analyses were conducted in ArcGIS 10.8, where fear ratings were georeferenced and interpolated using Inverse Distance Weighting (IDW) to generate continuous daytime and night-time fear surfaces. IDW was selected because it is well suited to modelling localised spatial variation within relatively small study areas based on proximity relationships between sampled locations.

Spatial autocorrelation was evaluated using Global Moran's *I* to determine whether fear perception exhibited statistically significant clustering or random spatial distribution across the campus. Gender-specific spatial analyses enabled the identification and comparison of male and female fear hotspots. Temporal variations were examined using a Fear Change Index (FCI), computed as the difference between night-time and daytime fear scores, thereby identifying locations where perceived insecurity intensified after dark. The resulting spatial outputs were classified using the Natural Breaks (Jenks) method and visualised through graduated colour maps to facilitate interpretation of gendered and temporal patterns of fear.

Ethical principles were strictly observed throughout the study. Participation was voluntary, informed verbal consent was obtained from all respondents, and anonymity and confidentiality were maintained. No personally identifiable information was collected. Although the study examined perceived rather than objectively recorded crime, perception-based fear remains a critical indicator because it directly influences mobility, spatial behaviour, and users' interactions with the campus environment.

The fear change index was computed using this formulation:

$$FCI = Night\ Intensity - Day\ Intensity$$

Equation 1

Results and Discussion

The presentation of data in this section provides an overview of the demographic characteristics of respondents and their perceptions of fear, security, and safety across the University of Benin campus. Descriptive statistics, including frequencies and percentages, were used to summarise the responses and establish initial patterns within the dataset. The table presents the distribution of respondents by gender alongside their perceptions of fear during day-time and night-time periods, as well as their ratings of fear, security, and safety levels. This presentation offers a preliminary understanding of how respondents perceive campus conditions and provides a foundation for subsequent inferential and spatial analyses. See Table 1

Table 1: Demographic Characteristic of Respondents and Perceptions of Fear, Security, and Safety on the University of Benin Campus

Variable	Category	Frequency (N)	Percentage (%)
Gender of Respondent	Male	254	65.6
	Female	133	34.4
Fearful on Campus During the Day	Yes	31	8.0
	No	286	74.0
	It depends on the location	70	18.0
Fearful on Campus During the Night	Yes	89	23.0
	No	119	30.8
	It depends on the location	179	46.2
Rating of Fear Level During the Day	0	215	55.6
	1	50	12.9
	2	84	21.7
	3	24	6.2
	4	4	1.0
	5	10	2.6
Rating of Fear Level During the Night	0	61	15.8
	1	12	3.1
	2	52	13.4
	3	74	19.1
	4	75	19.4
	5	113	29.2
Rating of Security of Campus During the Day	0	8	2.1
	1	3	0.8
	2	21	5.4
	3	94	24.3
	4	155	40.1
	5	106	27.4
Rating of Security of Campus During the Night	0	67	17.3
	1	78	20.2
	2	71	18.3
	3	76	19.6
	4	61	15.8
	5	34	8.8
Rating of Safety of Campus During the Day	0	17	4.4
	1	2	0.5
	2	24	6.2
	3	63	16.3
	4	159	41.1
	5	122	31.5
Rating of Safety of Campus During the Night	0	72	18.6
	1	55	14.2
	2	110	28.4
	3	69	17.8
	4	50	12.9
	5	31	8.0

Source: Authors' Computation (2026)

Table 1 presents the descriptive distribution of respondents and their perceptions of fear, security, and safety on the University of Benin campus. The results indicate that male respondents constituted the larger proportion of the study population. Findings further reveal that fear perception differs between day-time and night-time conditions. Most respondents generally expressed lower fear during the day, whereas fear became more pronounced at night and was often influenced by specific campus locations.

The pattern of responses also suggests that perceptions of security and safety are stronger during the day but decline during night-time periods. Fear ratings increased substantially at night, indicating greater feelings of vulnerability after dark. Overall, the findings reveal a clear temporal pattern in which campus environments are perceived differently across time, with night-time conditions associated with heightened concern and reduced feelings of safety.

Gender and Fear Perception

Independent samples t-tests were conducted to examine whether statistically significant differences existed between male and female respondents in their perceptions of daytime and night-time fear across the University of Benin campus. This analysis enabled direct comparison of gender-based fear experiences and provided insight into the temporal and emotional dimensions of perceived insecurity within the campus environment. Tables 2–4 present the descriptive statistics, inferential test results, and effect sizes for gender and diurnal fear perception. The findings revealed statistically significant variations in fear perception across temporal conditions, with substantially higher fear levels reported during night-time periods.

Table 2: Independent-Sample Group Statistics for Gender and Diurnal Fear Perception

	Gender of Respondent	N	Mean	Std. Deviation	Std. Error Mean
Rating of Fear Level During the Day	Male	254	1.0039	1.30822	.08209
	Femal	133	.7594	1.06707	.09253
Rating of Fear Level During the Night	Male	254	3.0866	1.76494	.11074
	Femal	133	3.1504	1.70337	.14770

Source: Author's Computation (2026)

Table 3: Independent Samples Test for Gender and Diurnal Fear Perception

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
Rating of Fear Level	Equal variances assumed	4.409	.036	1.856	385	.064	.24454	.13174		-.01449	.50356
During the Day	Equal variances not assumed			1.977	318.582	.049	.24454	.12369		.00119	.48789
Rating of Fear Level	Equal variances assumed	.000	.983	-.342	385	.733	-.06376	.18667		-.43078	.30326
During the Night	Equal variances not assumed			-.345	276.530	.730	-.06376	.18461		-.42717	.29965

Source: Author's Computation (2026)

Table 4: Independent Samples Effect Sizes for Gender and Diurnal Fear Perception

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Rating of Fear Level During the Day	Cohen's d	1.23088	.199	-.012	.409
	Hedges' correction	1.23328	.198	-.012	.408
	Glass's delta	1.06707	.229	.017	.440
Rating of Fear Level During the Night	Cohen's d	1.74407	-.037	-.246	.173
	Hedges' correction	1.74748	-.036	-.246	.173
	Glass's delta	1.70337	-.037	-.247	.172

a. The denominator used in estimating the effect sizes.

Cohen's d uses the pooled standard deviation.

Hedges' correction uses the pooled standard deviation, plus a correction factor.

Glass's delta uses the sample standard deviation of the control group.

Source: Author's Computation (2026)

The independent-samples t-test findings demonstrate that gender differences in fear perception within the University of Benin campus vary according to temporal conditions. During the daytime, male respondents reported a slightly higher mean fear level (Mean = 1.0039) than female respondents (Mean = 0.7594). Although this difference was statistically significant when equal variances were not assumed ($t = 1.977$, $p = .049$), the magnitude of the difference remained small, as indicated by the effect size (Cohen's $d = 0.199$). This suggests that while gender contributes to variations in daytime fear perception, its practical influence is relatively limited. The small effect size indicates that daytime environmental conditions produce broadly comparable perceptions of safety across both gender groups despite the observed statistical difference.

The absence of a substantial gender difference during daytime periods may be attributed to the environmental characteristics that typically define campus activities during working hours. High pedestrian movement, regular academic activities, increased visibility, and continuous occupation of public spaces provide opportunities for natural surveillance and reinforce perceptions of environmental control. Under such conditions, environmental uncertainty is reduced, thereby minimising gender-based differences in emotional responses to space. These findings suggest that active social presence and routine campus activities function as protective mechanisms that moderate fear perception irrespective of gender.

In contrast, the analysis revealed no statistically significant gender difference in fear perception during the night. Although female respondents recorded a marginally higher mean fear level (Mean = 3.1504) than male respondents (Mean = 3.0866), the difference was not statistically significant ($t = -0.345$, $p = .730$). Furthermore, the effect size was negligible (Cohen's $d = -0.037$), indicating that both male and female students experienced similarly high levels of fear after dark. This finding suggests that temporal changes in the campus environment exert a stronger influence on fear perception than gender during night-time periods.

The convergence of fear levels at night indicates that environmental conditions associated with darkness, reduced pedestrian activity, limited visibility, and declining informal surveillance create a shared perception of vulnerability among campus users. Rather than producing distinct gendered experiences, the night-time environment appears to elevate feelings of insecurity across both groups. Consequently, environmental uncertainty becomes the dominant factor shaping emotional interpretations of campus space, reducing the relative influence of gender differences observed during daylight conditions.

These findings provide partial support for Feminist Geography perspectives, which argue that social identities influence how environments are perceived and experienced (Valentine, 1989; Johansson & Haandrikman, 2021). While previous studies have consistently reported higher levels of fear among women in public spaces, the present findings indicate that this relationship may be context dependent. Within the University of Benin campus, daytime conditions produced only a small gender difference, while night-time conditions generated similarly elevated fear levels among both male and female students. This suggests that environmental circumstances may, under certain conditions, override gender-specific differences in perceived vulnerability.

The results further reinforce the propositions of Defensible Space Theory by demonstrating that fear perception is closely associated with environmental characteristics that influence opportunities for surveillance and territorial control. During the day, the presence of routine activity, visible users, and continuous occupation of space likely enhances informal guardianship and strengthens perceptions of safety. At night, these protective features diminish considerably, allowing environmental ambiguity to become the dominant influence on emotional responses. Similar observations have been reported

by Reynald (2015), Cozens and Sun (2019), and Egharevba and Osakue (2025), who found that poor lighting, weak surveillance, and limited visibility significantly increase perceptions of insecurity within urban environments.

The findings also support the Emo-Spatial framework underpinning this study by illustrating that fear emerges through the interaction between environmental conditions, temporal variation, and individual interpretation of space. Although gender contributed modestly to daytime fear perception, the transition from day to night substantially altered emotional responses across all respondents. This demonstrates that fear is not determined solely by personal characteristics but is continually shaped by changing environmental cues that communicate uncertainty, vulnerability, and perceived risk.

Within the Nigerian university context, these findings may reflect broader concerns surrounding campus security, harassment, theft, cult-related activities, and limited surveillance during evening hours. Such concerns may influence the ways students negotiate access to campus environments, particularly after dark. Consequently, fear extends beyond an emotional response and becomes a behavioural factor influencing route selection, movement patterns, timing of activities, and avoidance of locations perceived to offer limited protection or assistance.

Generally, the independent-samples t-test findings indicate that temporal conditions exert a greater influence on fear perception than gender within the University of Benin campus. While a modest gender difference was observed during daytime periods, fear levels converged at night, suggesting that deteriorating environmental conditions affect both male and female students in similar ways. The implication is that interventions aimed at improving campus safety should prioritise environmental design measures that strengthen natural surveillance, improve lighting quality, increase visibility along pedestrian routes, and enhance access to emergency support systems. Such measures are likely to improve perceived safety for all campus users while complementing broader socially responsive planning strategies that recognise the diverse ways individuals experience and negotiate urban space.

Gender Differential Mapping (Comparative Surface Analysis)

Gender Differential Mapping was employed to examine the spatial variation in fear perception between male and female respondents across the University of Benin campus. Rather than merely identifying locations of high or low fear intensity, the analysis focused on the relative spatial divergence in fear perception between gender groups and how these differences varied across locations and temporal conditions. Comparative surface analysis therefore enabled the visualisation of spaces where gendered experiences of insecurity became more pronounced, as well as environments where perceptions of safety remained relatively similar between male and female users.

The approach provided a deeper spatial understanding of the emotional geography of the campus by revealing how fear is unevenly organised within the built environment. Through the comparison of daytime and night-time interpolated fear surfaces, the analysis identified major fear hotspots, traced their temporal shifts, examined the concentration of gendered fear zones, and revealed areas where fear perceptions either converged or diverged spatially. The method therefore moved beyond descriptive interpretations of fear by demonstrating how gender, temporal variation, environmental organisation, and emotional interpretation interact to produce differentiated campus fear-scapes. Figure 3 presents the spatial distribution of gender differential fear perception across daytime and night-time periods within the University of Benin campus.

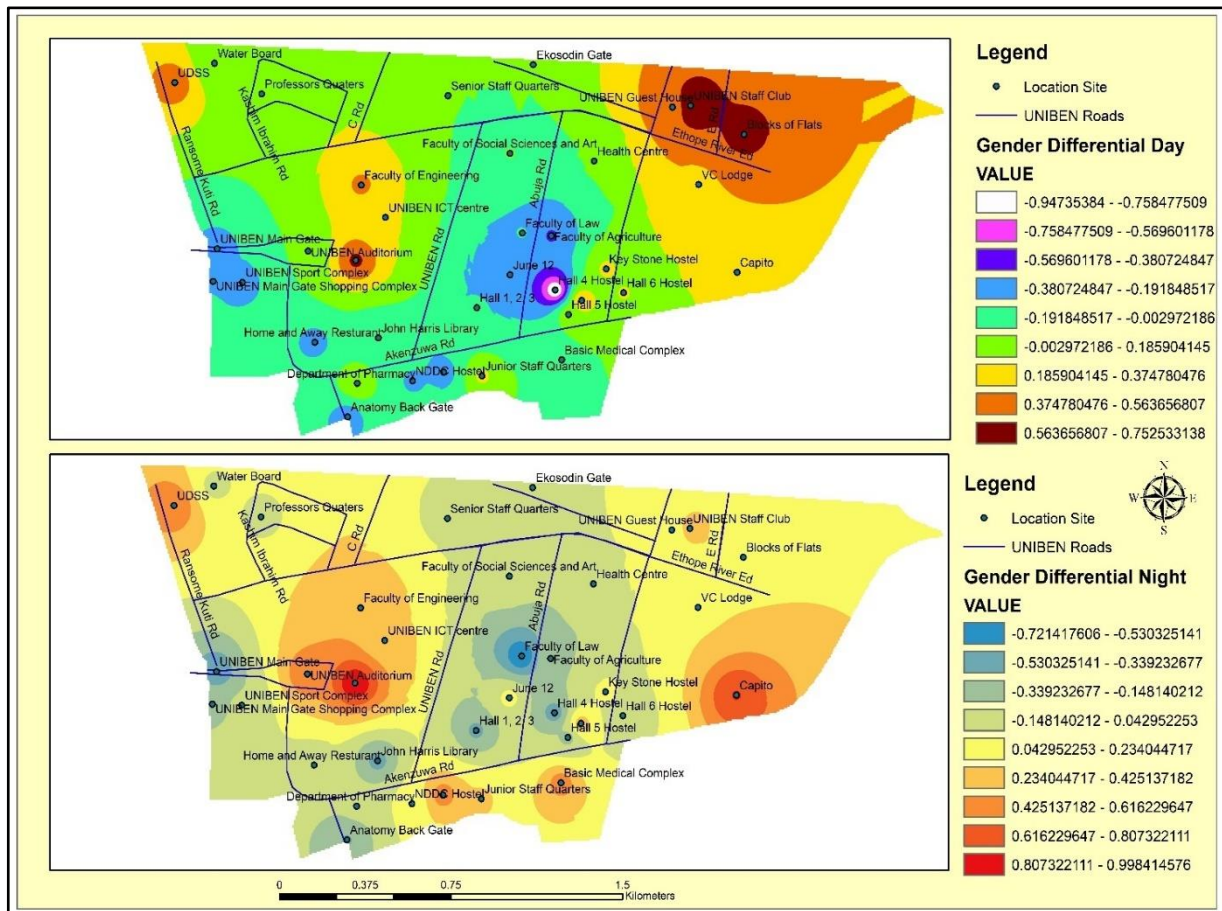


Figure 3: Spatial Distribution of Gender Differential Safety Perception Across Day and Night Periods on the University of Benin (UNIBEN) Campus
Source: Author's Computation (2026)

The findings indicate that fear within the University of Benin campus follows identifiable spatial and gendered patterns rather than random distribution. Fear was concentrated around environments characterised by weak visibility, poor lighting, spatial enclosure, fluctuating pedestrian activity, and limited surveillance opportunities. Locations such as the UNIBEN Staff Club, Ethope River Road, Faculty of Engineering surroundings, hostel corridors, and Blocks of Flats consistently emerged as fear-sensitive environments, suggesting that environmental conditions significantly influence perceptions of insecurity. Although these locations may not necessarily correspond with objectively high crime areas, they communicate environmental cues associated with uncertainty and reduced control. Similar observations by Huang et al. (2022), Garfias et al. (2020), and Steinmetz and Austin (2014) indicate that environments characterised by weak surveillance and restricted visibility frequently intensify perceptions of vulnerability. These findings support Defensible Space Theory and reinforce the Emotion-Spatial (Emo-Spatial) framework by showing that emotional responses emerge through interaction between users and environmental conditions.

The findings further demonstrate that fear is temporally dynamic. Fear concentrations shifted from daytime hotspots around the Staff Club and Ethope River corridor to stronger night-time concentrations around Capito, hostel environments, and the Sports Complex axis. This suggests that campus environments do not possess fixed emotional meanings; rather, perceptions of safety change as visibility declines, pedestrian activity reduces, and environmental uncertainty increases at night.

The findings therefore indicate that fear is shaped less by darkness itself than by the environmental and social transformations associated with darkness. Similar conclusions by Solymosi et al. (2015), Brands et al. (2025), and Ratnayake (2017) emphasise that fear operates as a dynamic spatiotemporal process influenced by changing activity patterns and environmental conditions.

Clear gender differences also emerged in the spatial organisation of fear. Female respondents demonstrated broader and more concentrated fear patterns, particularly around hostel environments, movement corridors, and transitional spaces. These environments often combine weak territorial definition, uncertain activity patterns, and limited surveillance, conditions that may heighten perceived vulnerability. The findings suggest that women interpret environmental uncertainty more strongly than male respondents, reflecting socially mediated experiences of anticipated risk. Similar findings by Fisher and Nasar (1992), Johansson and Haandrikman (2021), and Prada-Trigo et al. (2025) show that women frequently modify movement behaviour in response to perceived environmental threats rather than direct victimisation alone. This pattern reinforces Feminist Geography and the Emo-Spatial framework by demonstrating that emotional interpretations of space differ across gender groups and are shaped by broader social experiences of vulnerability.

However, the findings differ from Jamtsho (2021), who reported limited gender variation in campus fear perception. This suggests that gendered fear responses are context dependent and influenced by institutional structure, environmental design, and local socio-cultural conditions. Fear within the University of Benin environment therefore reflects not only physical conditions but also the broader spatial and social context through which environments acquire emotional meaning.

Conversely, locations such as the Health Centre, Senior Staff Quarters, and selected academic areas displayed weaker gender differentials and lower fear concentration. These environments generally maintained stronger visibility, higher activity levels, and greater opportunities for natural surveillance, which may have strengthened perceptions of predictability and safety. Similar observations by Day (2001), Ngo et al. (2014), and Huang et al. (2022) indicate that visibility, lighting quality, and active social presence contribute significantly to reduced fear perception.

Overall, the findings demonstrate that fear within the University of Benin campus is shaped by the interaction between environmental conditions, temporal variation, and gendered experiences of vulnerability. Fear concentrations were strongest in environments characterised by weak surveillance, spatial isolation, and reduced night-time activity, while female respondents consistently demonstrated greater spatial sensitivity to these conditions. The findings therefore reinforce Defensible Space Theory, Feminist Geography, and particularly the Emotion-Spatial framework by showing that campus environments function as emotional landscapes where perceptions of safety and insecurity are continually negotiated through everyday spatial interaction.

Day-Night Fearscape Transition Analysis

Day-Night Fearscape Transition Analysis was employed to examine the temporal dynamics of fear perception across the University of Benin campus environment. Unlike static assessments of safety perception, this approach investigated how fear intensifies, declines, or shifts spatially between daytime and night-time conditions, while also examining how these transitions differ across gender groups. Through spatial interpolation, hotspot mapping, and comparative surface analysis, the study identified environments where fear amplification was most pronounced and locations where perceptions of insecurity remained relatively stable. The analysis therefore provided deeper insight into the spatiotemporal organisation of campus fearscape and the environmental conditions that shape emotional responses to space.

More specifically, the analysis explored how environmental factors such as poor illumination, weak surveillance, dense vegetation, environmental enclosure, reduced pedestrian movement, and declining night-time activity patterns influence the geography of perceived insecurity. Rather than treating fear as a fixed emotional reaction, the analysis conceptualised fear as a dynamic Emo-Spatial process that changes according to variations in environmental conditions, social activity, and users' interpretation of space. Figures 4 and 5 illustrate the daytime and night-time fearscape patterns among male and female students within the University of Benin campus environment.

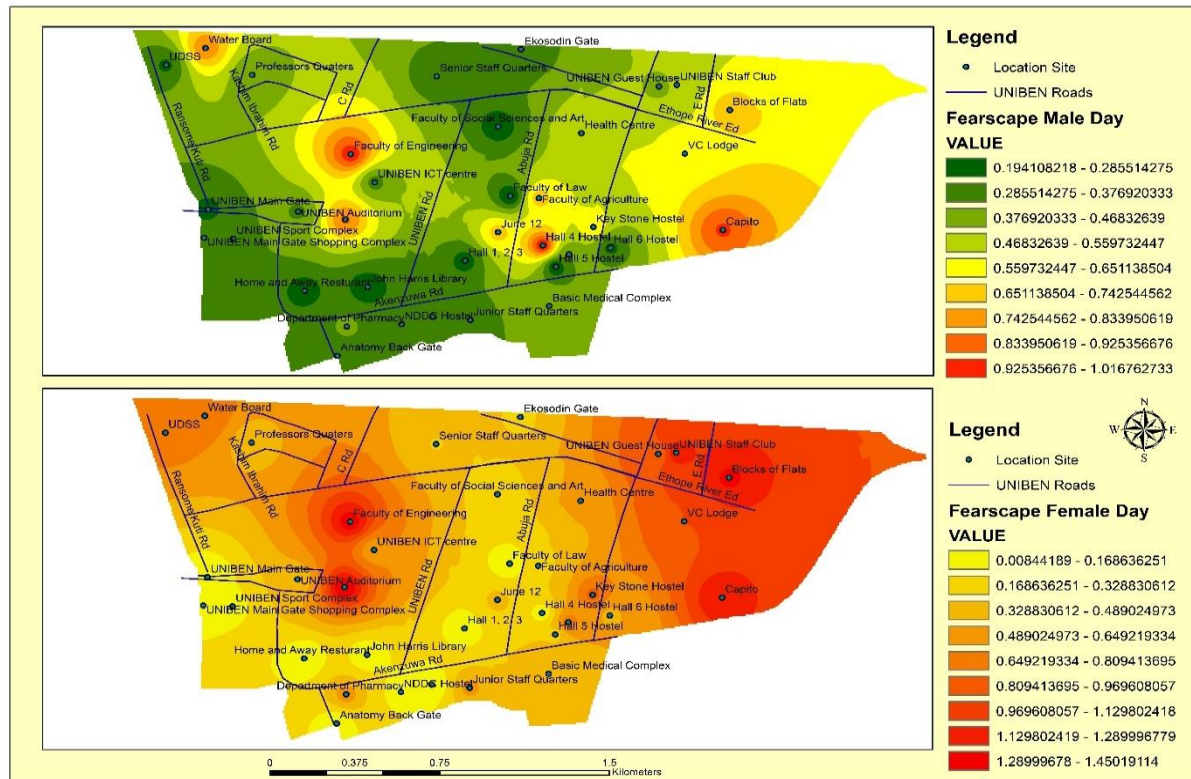


Figure 4: Daytime Fearscape Patterns among Male and Female Students in the University of Benin Campus

Source: Author's Computation (2026)

Figure 4 reveals the daytime spatial distribution of fear intensity among male and female respondents across the University of Benin campus. The daytime fearscape among male respondents appeared relatively moderate and spatially concentrated, with isolated hotspots emerging around Capito, the Hall 4 and Hall 6 hostel corridor, the Faculty of Engineering surroundings, and portions of the UNIBEN Auditorium axis. These environments demonstrated elevated daytime fear perception but remained comparatively limited in spatial spread.

In contrast, female respondents displayed broader and more spatially dispersed daytime fear concentrations across the campus environment. Elevated daytime fear intensity among females was observed around Capito, Blocks of Flats, Faculty of Engineering surroundings, the Water Board axis, and the UNIBEN Auditorium corridor. The wider distribution of female fear hotspots suggests that women experienced greater daytime vulnerability and stronger anticipatory perceptions of insecurity within the campus environment compared with their male counterparts.

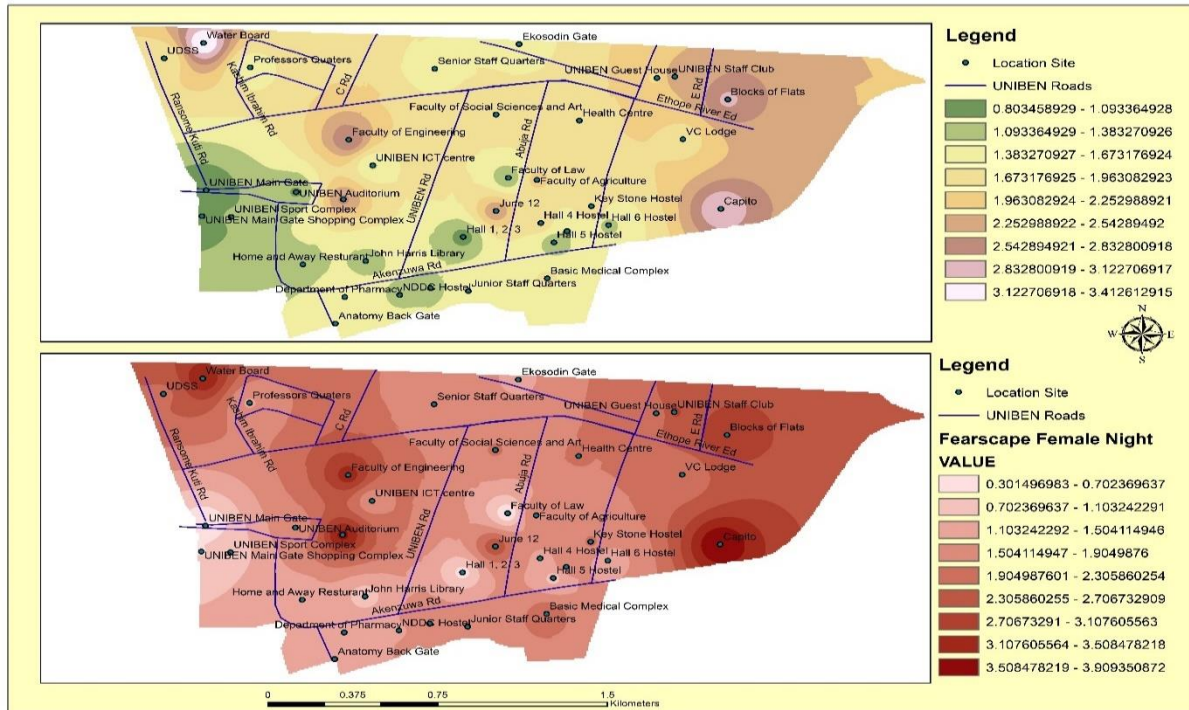


Figure 5: Night-time Fearscape Patterns among Male and Female Students in the University of Benin Campus

Source: Author's Computation (2026)

Figure 5 further illustrates the spatial distribution of fear during night-time periods for both male and female respondents. The map demonstrates a substantial increase in fear intensity across the campus after dark. Among male respondents, stronger night-time fear concentrations emerged around Capito, the Water Board/UDSS axis, the Faculty of Engineering surroundings, and the Hall 4 and Hall 6 hostel corridor. These areas therefore transitioned from moderate daytime concern zones into stronger night-time fear hotspots.

However, the female night-time fearscape exhibited both a significantly wider spatial spread and stronger intensity of fear concentration. High night-time fear levels were particularly evident around Capito, Blocks of Flats, the Water Board axis, Faculty of Engineering surroundings, hostel environments, and transitional movement corridors linking residential and academic areas. The broader clustering of female fear hotspots suggests that environmental conditions associated with darkness disproportionately intensified women's perceptions of vulnerability within the campus environment.

The findings indicate that increases in Emo-Spatial fear perception across the University of Benin campus are spatially concentrated around particular environments rather than randomly distributed. During daytime periods, locations such as Capito, Hall 4/Hall 6 corridor, Faculty of Engineering surroundings, the Auditorium axis, Blocks of Flats, and the Water Board corridor consistently recorded sharper increases in fear intensity. The repeated emergence of these environments suggests that certain spatial characteristics such as weak visibility, fluctuating activity levels, spatial enclosure, and limited surveillance repeatedly communicate uncertainty and vulnerability to users.

Most of these locations function as transitional or mixed-use spaces where movement patterns vary considerably across time. Such environments may heighten insecurity because users are less certain



about surrounding activity, available assistance, and environmental control. This finding aligns with Defensible Space Theory, which argues that weak territorial definition and limited natural surveillance often intensify perceptions of insecurity (Armitage & Tompson, 2022). Similar observations were reported by Huang et al. (2022) and Steinmetz and Austin (2014), who found that visually restricted and environmentally ambiguous campus environments frequently heighten emotional discomfort.

Fear intensification became substantially stronger during night-time periods, particularly around Capito, the Water Board/UDSS axis, Faculty of Engineering surroundings, hostel corridors, and residential environments. The persistence of these locations across both temporal conditions suggests that some campus environments possess enduring environmental characteristics that repeatedly heighten perceptions of vulnerability. However, night-time conditions amplified these emotional responses as declining visibility, weaker informal surveillance, and reduced pedestrian activity increased environmental uncertainty. The findings therefore suggest that fear is shaped less by darkness itself than by the social and environmental changes associated with darkness. This strongly supports the Emo-Spatial framework, which conceptualises fear as emerging through interactions between environmental conditions, social activity, and lived experience.

The findings correspond with Solymosi et al. (2015), who conceptualised fear as a dynamic spatiotemporal process rather than a fixed emotional condition. Similar studies by Brands et al. (2025) and Ratnayake (2017) also showed that reductions in visibility and social presence significantly reshape perceptions of safety at night. Within the University of Benin context, the findings reinforce Egharevba and Osakue's (2025) argument that fear emerges through the interaction between environmental organisation, movement structure, and perceived spatial quality.

The results further reveal that these fear transitions are strongly gender-skewed. While male respondents displayed relatively isolated fear hotspots, female respondents exhibited broader and more spatially concentrated patterns of fear across multiple campus environments. Female fear concentrations extended beyond isolated hotspots to include residential corridors, hostel environments, and movement pathways, suggesting stronger sensitivity to environments associated with uncertainty and perceived vulnerability. This supports Feminist Geography perspectives that spaces are socially experienced rather than universally interpreted (Rodó-de-Zárate & Baylina, 2018; Wrede, 2015).

The stronger night-time clustering among female respondents further indicates that temporal changes disproportionately intensify women's perceptions of vulnerability. Female respondents demonstrated not only higher fear intensity but also wider spatial spread during night-time periods. Similar observations were reported by Fisher and Nasar (1992), who found that female students frequently altered movement patterns because of anticipated risk rather than direct victimisation. Johansson and Haandrikman (2021) likewise argued that gender differences in fear reflect broader social inequalities and embodied vulnerability rather than objective crime exposure alone.

The persistence of locations such as Capito, Faculty of Engineering surroundings, and residential corridors across both daytime and night-time conditions suggests that fear emerges through repeated interaction between environmental characteristics and user experience. Conditions such as weak illumination, obstructed visibility, environmental neglect, and inconsistent activity patterns appear to continually reinforce perceptions of insecurity over time. Similar findings were reported by Egharevba and Osakue (2025), who observed that campus fear hotspots often emerge where environmental design intersects with perceived vulnerability and mobility patterns.

Generally, the findings demonstrate that fear within the University of Benin campus follows identifiable spatial and temporal structures that are strongly gendered. Certain environments repeatedly emerge as emotionally sensitive spaces, while night-time conditions significantly intensify these responses. The findings therefore reinforce the argument that campus fear is not simply a reaction to objective crime risk but an Emo-Spatial outcome produced through the interaction between environmental conditions, temporal change, and gendered lived experience.

Table 5 presents the Fear Change Index (FCI) across selected locations within the University of Benin environment. The table illustrates the degree of change in fear perception between daytime and night-time conditions among male and female respondents. Positive FCI values indicate increased fear at night, while variations in the magnitude of the index reflect differences in the intensity of temporal fear amplification across locations. The table therefore provides additional insight into the spatial and gendered organisation of fear within the campus environment by identifying locations with weak, moderate, and strong night-time increases in perceived insecurity.

Table 5: Fear Change Index of Location

Location	Male FCI	Female FCI	Interpretation
UDSS	+1.8	+1.5	Strong increase
Water Board	+2.1	+1.8	Very strong increase
Professors Quarters	+1.2	+1.3	Moderate increase
Senior Staff Quarters	+0.6	+0.7	Weak increase
Ekosodin Gate	+0.8	+0.9	Weak–moderate increase
UNIBEN Guest House	+0.7	+0.8	Weak increase
UNIBEN Staff Club	+1.0	+1.2	Moderate increase
Blocks of Flats	+1.6	+2.0	Strong increase
VC Lodge	+1.1	+1.2	Moderate increase
Ethope River Road axis	+1.4	+1.6	Moderate–strong increase
Faculty of Engineering	+1.7	+1.8	Strong increase
Faculty of Social Sciences and Arts	+0.8	+0.9	Weak increase
Health Centre	+0.4	+0.5	Minimal increase
Faculty of Law	+0.6	+0.7	Weak increase
Faculty of Agriculture	+0.8	+0.8	Weak increase
UNIBEN ICT Centre	+1.0	+1.2	Moderate increase
June 12 axis	+1.2	+1.5	Moderate increase
Hall 1–3	+0.8	+1.0	Weak–moderate increase
Hall 4/Hall 6	+1.6	+1.9	Strong increase
Hall 5	+0.9	+1.1	Moderate increase
Key Stone Hostel	+1.2	+1.5	Moderate increase
Capito	+2.2	+2.7	Very strong increase
Basic Medical Complex	+0.7	+1.0	Weak increase
Junior Staff Quarters	+0.6	+0.7	Weak increase
John Harris Library	+0.5	+0.6	Minimal increase
NDDC Hostel	+0.9	+1.3	Moderate increase
Department of Pharmacy	+0.5	+0.7	Minimal increase
Anatomy Back Gate	+0.6	+0.8	Weak increase
Home and Away Restaurant	+0.4	+0.5	Minimal increase
Auditorium	+1.4	+1.8	Strong increase
Sports Complex	+1.1	+1.4	Moderate increase
Main Gate	+0.2	+0.3	Very weak increase

Source: Author's Computation (2026)

The Fear Change Index (FCI) analysis revealed clear spatial and gendered variations in the transition of fear perception from daytime to night-time across the University of Benin campus. Nearly all locations recorded positive FCI values, indicating that fear generally intensified after dark. However, the magnitude of amplification differed considerably across locations, demonstrating that fear escalation was spatially uneven rather than uniformly experienced.

The strongest night-time amplification occurred around Capito, Water Board, UDSS, Blocks of Flats, and the Faculty of Engineering surroundings. Capito recorded the highest increase, particularly among female respondents. These locations are characterised by poor illumination, environmental enclosure, declining pedestrian activity, and limited natural surveillance, conditions that likely intensified uncertainty and perceived vulnerability. The findings align with Defensible Space Theory and support Newman (1972), Cozens and Sun (2019), and Reynald (2015), who argued that environments with weak guardianship and reduced visibility frequently generate heightened perceptions of insecurity. The results also reinforce the Emo-Spatial framework by demonstrating that emotional responses intensify when environmental conditions reduce users' sense of predictability and control over space.

The amplification observed around Water Board and UDSS further illustrates how temporal transition reshapes the emotional meaning of space. Environments that function as ordinary movement corridors during the day become associated with uncertainty at night as visibility declines and social activity reduces. This finding supports Solymosi et al. (2015) and Zeile et al. (2015), who conceptualised fear as a dynamic spatiotemporal and emotional process shaped through interaction with changing environmental conditions.

Moderate increases in fear were observed around the Auditorium, Hall 4/Hall 6, Ethope River Road axis, June 12 axis, and hostel environments. Although these areas did not record the highest FCI values, their night-time amplification remained substantial and was likely associated with weak lighting, reduced activity concentration, and limited surveillance. Similar observations by Shariati and Guerette (2019) and Day (2001) suggest that poorly illuminated and weakly maintained environments are more likely to be interpreted as unsafe because environmental cues directly shape perceptions of vulnerability.

In contrast, locations such as the Main Gate, Health Centre, Senior Staff Quarters, and selected academic core areas recorded relatively weak fear amplification. These environments generally maintain stronger visibility, higher activity levels, and greater opportunities for natural surveillance even during evening periods. This finding supports Reynald's (2015) argument that environmental visibility and active guardianship moderate perceptions of insecurity.

A major pattern across the analysis was the consistent gender differential in fear amplification. Female respondents recorded higher FCI values across almost all locations, particularly around Capito, hostel corridors, Blocks of Flats, and movement pathways. This suggests that night-time environmental changes affected women more intensely than men and that fear perception is socially mediated through gendered experiences of vulnerability and anticipated risk. The findings support Feminist Geography perspectives advanced by Massey (1994) and McDowell (1999), which argue that space is differently experienced across gender groups. Similar findings by Johansson and Haandrikman (2021) and Lizárraga et al. (2025) further demonstrate that women consistently report stronger fear responses within public and semi-public environments, especially at night.

The findings also indicate that fear within the university environment is dynamic rather than fixed. The transition from daytime to night-time substantially reshaped the geography of perceived

insecurity as familiar environments acquired different emotional meanings under conditions of reduced visibility and declining activity. This strongly supports the Emo-Spatial framework adopted in the study, which conceptualises fear as an emotional outcome produced through the interaction between environmental conditions, temporal change, and socially mediated experience.

Taken together, the findings demonstrate that fear within the University of Benin campus is shaped by the interaction between spatial design, temporal variation, environmental conditions, and gendered vulnerability. Environments characterised by weak surveillance, poor lighting, enclosure, and reduced activity consistently generated stronger night-time fear amplification, while the unequal distribution of fear across gender groups highlights the socially differentiated nature of emotional responses to campus space.

Spatial Gender Pattern of Fear within University of Benin

The spatial distribution of fear within the University of Benin extends beyond variations in intensity across locations and requires an understanding of the underlying spatial structure through which these emotional patterns emerge. Fear is rarely distributed randomly within an environment. Rather, it often demonstrates identifiable tendencies toward clustering, concentration, or dispersion in response to environmental organisation, social interaction, territorial control, and users' perceptions of vulnerability. Understanding whether fear occurs randomly or follows spatially structured patterns is therefore essential for interpreting how campus environments shape emotional experiences differently across gender groups.

To determine the nature of the spatial organisation of fear among male and female respondents, spatial autocorrelation analysis was conducted using Moran's I statistics. Spatial autocorrelation provides a means of examining whether fear values occurring across locations are spatially related or randomly distributed within the campus environment. More specifically, the analysis evaluates whether locations with high fear values tend to cluster together spatially, whether low fear environments demonstrate similar grouping tendencies, or whether fear patterns occur independently across space.

The application of spatial autocorrelation analysis in this study provides deeper insight into how gender shapes the spatial organisation of fear within the University of Benin campus environment. Beyond identifying fear hotspots, the analysis reveals whether male and female fear experiences follow similar or distinct spatial structures across the study area. In doing so, the analysis advances the understanding of campus fearscape from simple location-based interpretation toward a broader Emo-Spatial understanding of how emotional experiences become geographically organised within institutional environments. The resulting spatial autocorrelation patterns for male and female respondents are presented in Figures 6 and 7.

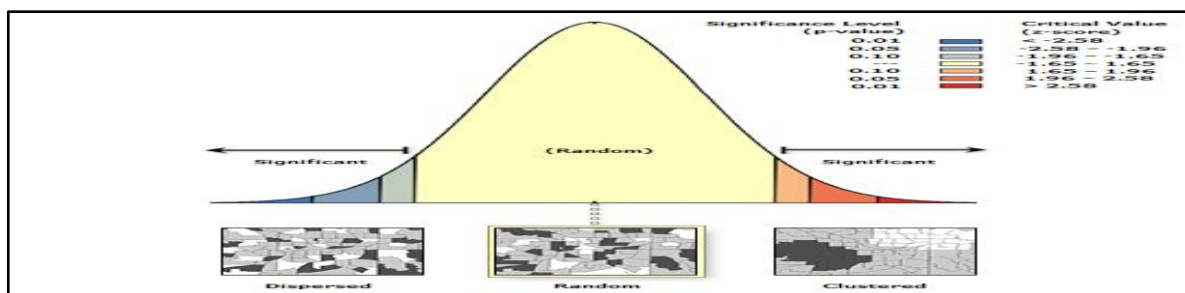


Figure 6: Spatial Autocorrelation Pattern of Fear for Male within University of Benin

Source: Author's Computation (2026)

Given the z-score of 1.02334479901, the pattern does not appear to be significantly different than random.

Moran's Index:	0.097295	
Expected Index	-	
	0.028571	
Variance	0.015128	
z-score:	1.023345	
p-value:	0.306145	

Source: Author's Computation (2026)

Figure 6 presents the spatial autocorrelation pattern of fear among male respondents within the University of Benin campus environment. Spatial autocorrelation analysis was conducted to determine whether the distribution of fear among male students follows a clustered, dispersed, or random spatial structure across the study area. The analysis produced a Moran's Index value of 0.097295, an expected index of -0.028571 , a z-score of 1.023345, and a p-value of 0.306145.

The findings indicate that although the Moran's Index produced a positive value, suggesting a weak tendency toward clustering, the observed pattern is not statistically significant. The z-score of 1.023345 falls within the acceptable range of random variation, while the p-value of 0.306145 exceeds the conventional significance threshold of 0.05. This implies that the observed spatial arrangement of fear among male respondents does not differ significantly from a random distribution. Consequently, the null hypothesis of random spatial distribution cannot be rejected.

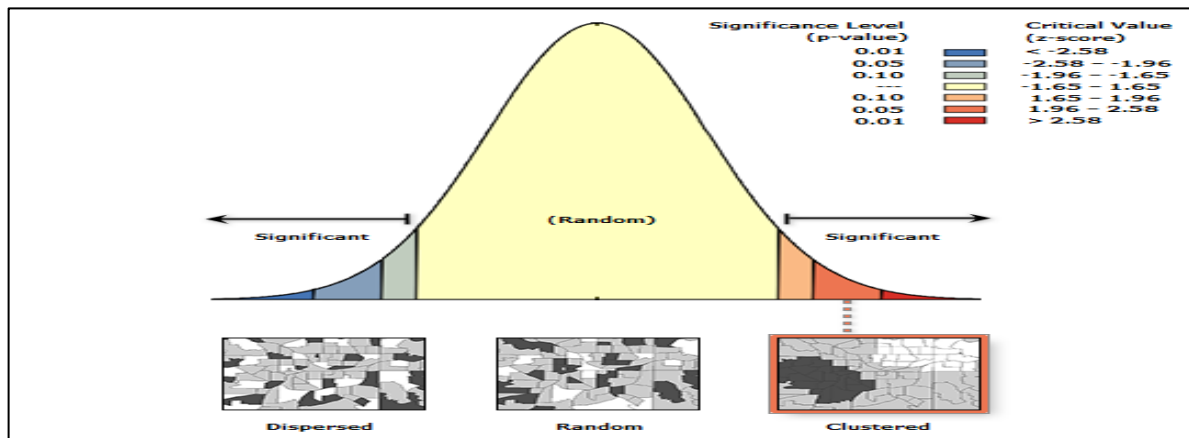


Figure 7: Spatial Autocorrelation Pattern of Fear for Female within University of Benin

Source: Author's Computation (2026)

Given the z-score of 2.35275953062, there is a less than 5% likelihood that this clustered pattern could be the result of random chance.

Moran's Index:	0.238641	
Expected index	-	
	0.028571	
Variance	0.012899	
z-score:	2.352760	
p-value:	0.018635	

Source: Author's Computation (2026)

Figure 7 presents the spatial autocorrelation pattern of fear among female respondents within the University of Benin campus environment. Spatial autocorrelation analysis was undertaken to determine whether the observed distribution of fear among female students follows a clustered, dispersed, or random spatial structure across the study area. The analysis produced a Moran's Index value of 0.238641, an expected index of -0.028571 , a z-score of 2.352760, and a p-value of 0.018635.

The findings reveal that fear among female respondents demonstrates a statistically significant clustered spatial pattern across the campus environment. The positive Moran's Index value of 0.238641 indicates a clear tendency toward spatial concentration, suggesting that locations with high fear values occur closer together than would be expected under random conditions. This observation is further confirmed by the z-score of 2.352760, which exceeds the critical threshold of 1.96 at the 0.05 significance level, while the p-value of 0.018635 remains below the conventional significance threshold of 0.05. The implication is that there is less than a five percent probability that the observed clustering pattern emerged by chance. Consequently, the null hypothesis of random spatial distribution is rejected for female respondents.

The findings reveal important differences in the spatial organisation of fear between male and female respondents within the University of Benin campus. Gender influences not only the intensity of fear but also the spatial structure through which fear is experienced. While male fear patterns appear relatively random, female fear demonstrates statistically significant clustering, suggesting that environmental conditions do not generate uniform emotional responses across users.

For male respondents, the Moran's Index value of 0.097295 indicates only a weak tendency toward clustering, while the z-score (1.023345) and p-value (0.306145) show that the pattern is statistically indistinguishable from randomness. This suggests that fear among male respondents is relatively dispersed rather than concentrated around specific campus environments. In Emo-Spatial terms, emotional meanings attached to environments among male respondents appear less spatially fixed and less consistently reinforced across the campus landscape.

This finding supports studies suggesting that men often display lower environmental sensitivity in relation to perceived vulnerability and fear (Pain, 2000). Johansson and Haandrikman (2021) similarly argued that male fear experiences are less strongly tied to specific environments because perceptions of vulnerability are socially mediated differently across gender groups. From a Feminist Geography perspective, this may reflect fewer socially reinforced mobility constraints among men, thereby reducing the likelihood that specific locations become repeatedly interpreted as threatening.

In contrast, female respondents exhibited a statistically significant clustered pattern of fear. The Moran's Index value of 0.238641, together with a z-score of 2.352760 and p-value of 0.018635, indicates that fear among women is spatially concentrated rather than randomly distributed. Certain campus environments therefore repeatedly emerge as emotionally sensitive spaces for female users.

The clustered female pattern suggests that specific environmental characteristics consistently communicate signals of uncertainty and vulnerability. Environments characterised by weak surveillance, obstructed visibility, enclosure, and limited social presence appear to reinforce perceptions of insecurity among female respondents. This interpretation aligns with Defensible Space Theory and studies by Steinmetz and Austin (2014) and Egharevba and Osakue (2025), which found that visually restricted and weakly monitored campus environments frequently emerge as concentrated fear-sensitive spaces.



The observed gender differences further reinforce Feminist Geography arguments that environments are socially experienced rather than objectively interpreted. Female respondents appear more spatially sensitive because environmental conditions interact with broader experiences of vulnerability, mobility restriction, and anticipated risk (Rodó-de-Zárate & Baylina, 2018; Wrede, 2015). Consequently, spaces interpreted as routine movement corridors by male respondents may communicate uncertainty and emotional threat to female users.

The contrast between both patterns demonstrates that fear within the University of Benin campus is not simply an individual emotional reaction but an Emo-Spatial outcome shaped through interaction between environmental conditions and socially mediated vulnerability. The absence of significant clustering among males suggests more situational and dispersed emotional responses, whereas the clustered female pattern indicates that environmental conditions systematically structure fear perception.

Generally, the findings demonstrate that fear within the campus is differentiated not only by intensity but also by spatial organisation. Female fear experiences appear more geographically concentrated and environmentally conditioned, while male fear remains comparatively diffuse. The findings therefore reinforce the Emo-Spatial framework by showing that emotional responses become spatially organised when particular environments repeatedly communicate similar meanings of vulnerability to specific social groups.

Synthesis of Spatial and Gendered Fear Patterns

The findings from Sections 7.1–7.4 show that fear within the University of Benin campus is spatially uneven, temporally dynamic, and gender differentiated. Fear concentrated more strongly in environments characterised by weak visibility, poor lighting, limited surveillance, spatial enclosure, and fluctuating activity levels, particularly during night-time periods. Recurrent hotspots such as Capito, Water Board axis, UDSS corridor, Hall 4/Hall 6 surroundings, Blocks of Flats, and Faculty of Engineering indicate that environmental design and movement structure significantly shape perceptions of insecurity.

The transition from daytime to night-time intensified these patterns as declining visibility and reduced pedestrian activity increased environmental uncertainty within movement corridors and transitional spaces. The Fear Change Index further confirmed that fear amplification was strongest in locations with weak surveillance and low night-time activity concentration.

Clear gender differences also emerged across the analyses. Female respondents consistently reported higher fear intensity, stronger night-time amplification, and more spatially concentrated fear patterns than male respondents. While male fear patterns appeared relatively dispersed, female fear demonstrated statistically significant clustering around hostel environments, movement pathways, and isolated campus spaces. This suggests that environmental conditions are interpreted differently across gender groups and that perceptions of vulnerability are socially mediated rather than universally experienced.

The spatial autocorrelation analysis reinforced this distinction. Male fear patterns did not exhibit significant spatial clustering, whereas female fear showed significant spatial dependence, indicating that certain campus environments repeatedly generated stronger emotional responses among women.

Taken together, the findings support Defensible Space Theory, Feminist Geography, and the Emo-Spatial framework adopted in this study. Fear emerged not simply from objective crime risk but through the interaction between environmental conditions, temporal change, and lived social

experience. The study therefore demonstrates that campus spaces function as emotional landscapes where perceptions of safety and insecurity are continually negotiated through everyday spatial interaction.

Limitation of the Study

This study focused primarily on perceived fear rather than objectively recorded crime incidence or verified victimisation data. Consequently, the findings reflect subjective interpretations of safety and vulnerability, which may not always correspond directly with actual crime occurrence.

The cross-sectional design also captured fear perceptions at a specific period in time, whereas fear-scapes are dynamic and may change with environmental conditions, institutional policies, or security interventions. In addition, the analysis relied largely on self-reported perceptions, which may be influenced by memory bias, personal experience, and socially conditioned perceptions of vulnerability.

The study was limited to the University of Benin campus environment, which may restrict broader generalisation to other institutional settings with different spatial, cultural, and security characteristics. Furthermore, although the study employed hotspot mapping, Fear Change Index (FCI), and spatial autocorrelation techniques, it did not incorporate objective environmental indicators such as illumination measurements, CCTV coverage, pedestrian counts, or crime statistics.

Finally, the analysis focused mainly on gender differences and did not extensively examine other socio-demographic variables such as age, disability, residential status, or prior victimisation experiences, which may also influence fear perception.

Despite these limitations, the study provides important empirical insight into the spatial and gendered organisation of fear within the University of Benin campus and offers a useful foundation for future Emo-Spatial research within institutional environments.

Conclusion

This study advances the geography of fear and Emo-Spatial geography by demonstrating that fear within the University of Benin campus is not randomly distributed but spatially organised, temporally dynamic, and socially differentiated. Through the integration of GIS-based spatial analysis, Fear Change Index modelling, hotspot mapping, and Moran's I spatial autocorrelation, the study revealed that fear clusters within specific campus locations characterised by poor visibility, weak surveillance, environmental enclosure, and changing activity patterns. The findings further showed that fear is shaped not only by environmental conditions but also by temporal transitions, as night-time conditions altered the emotional meaning of space by reducing visibility, pedestrian activity, and informal surveillance, thereby increasing perceived vulnerability.

The study also makes an important theoretical and methodological contribution by demonstrating that fear is socially mediated and experienced differently across gender groups. Female respondents exhibited higher fear intensity and stronger spatial clustering than their male counterparts, reinforcing the argument of Feminist Geography that emotional responses to space are shaped by gendered experiences and mobility constraints. By integrating emotional geography with advanced spatial analytical techniques, the study moves beyond descriptive assessments of fear to provide empirical evidence of how emotional experiences can be mapped, quantified, and interpreted across institutional environments. The proposed Emo-Spatial framework therefore offers a robust approach



for understanding campus fearscape and provides a valuable foundation for future research and gender-sensitive planning interventions.

Recommendation

1. The findings indicate that campus fear is spatially concentrated and strongly shaped by environmental conditions. Interventions should therefore prioritise recurrent hotspots such as Capito, Water Board axis, UDSS corridor, hostel environments, and major movement pathways. Lighting improvement should receive immediate attention, particularly along pedestrian corridors and transitional spaces where fear intensified at night.
2. Campus planning should incorporate Defensible Space and Crime Prevention Through Environmental Design principles by improving visibility, reducing environmental enclosure, strengthening natural surveillance, and maintaining clear sightlines along movement routes. Vegetation management and continuous environmental maintenance are also necessary to reduce perceptions of neglect and insecurity.
3. Security deployment should become more spatially targeted and responsive to identified fear-sensitive environments. Mobile patrol systems and visible night-time security presence may help reduce uncertainty in isolated corridors and residential zones.
4. The findings also highlight the need for gender-sensitive safety planning. Female respondents demonstrated stronger fear concentration and greater night-time vulnerability, suggesting that generalised security measures may inadequately address unequal emotional experiences across users. Participatory engagement with female students may therefore improve identification of fear-sensitive spaces and guide more inclusive planning interventions.
5. Finally, future studies should integrate emotional mapping with objective environmental and crime-related data, including pedestrian activity, lighting intensity, surveillance coverage, and recorded crime patterns, to provide a more comprehensive understanding of the relationship between perceived fear and environmental risk within campus environments.

References

- Ajadi, O. (2025). Campus Security Measures and Perceived Undergraduate Satisfaction in Obafemi Awolowo University, Ile-Ife, Nigeria. *COMPETITIVE: Journal of Education*, 4(2), 141–158. <https://doi.org/10.58355/competitive.v4i2.159>
- Anyanwu, C., Ipem, J. N., Eluemuno, A. I., & Ogunsola, A. O. (2023). Influence Of Insecurity on Undergraduate Students Examination Taking Behaviour in the Universities of South-East Geopolitical Zone. *International Journal of Management, Social Sciences, Peace and Conflict Studies (IJMSSPCS)*, 6(2) 99- 107; ISSN: 2682-6135 https://www.researchgate.net/publication/372104070_INFLUENCE_OF_INSECURITY_ON_UNDERGRADUATE_STUDENTS_EXAMINATION_TAKING_BEHAVIOUR_IN_THE_UNIVERSITIES_OF_SOUTH-EAST_GEOPOLITICAL_ZONE
- Armitage, R. (2016). Crime prevention through environmental design. In R. Wortley & M. Townsley (Eds.), *Environmental criminology and crime analysis* (2nd ed., pp. 273–292). Routledge. <https://api.taylorfrancis.com/content/chapters/edit/download?identifierName=doi&identifierValue=10.4324/9781315709826-21&type=chapterpdf>



- Armitage, R., & Tompson, L. (2022). The role of crime prevention through environmental design (CPTED) in improving household security. In *The handbook of security* (pp. 1–20). Springer. https://link.springer.com/chapter/10.1007/978-3-030-91735-7_42
- Berebon, C. B. (2023). Challenges of Insecurity in Nigeria: Impacts on University Education and Governance. *Journal of Research and Innovation*, 1(1) 57-70. ISSN: 2987-9272DOI: <https://doi.org/10.59562>
https://www.researchgate.net/publication/387146676_Challenges_of_Insecurity_in_Nigeria_Impacts_on_University_Education_and_Governance_ARTICLE_HISTORY
- Bondi, L. (2017). Making connections and thinking through emotions: Between geography and psychotherapy. *Area*, 49(3), 239–246. <https://doi.org/10.1111/area.12316>
- Cozens, P., & Sun, M. Y. (2019). Exploring crime prevention through environmental design (CPTED) and students' fear of crime at an Australian university campus using prospect and refuge theory. *Property Management*, 37(1), 31–52. <https://doi.org/10.1108/PM-04-2018-0023>
- Day, K. (2001). Constructing Masculinity and Women's Fear in Public Space in Irvine, California. *Gender, Place & Culture*, 8(2), 109–127. <https://doi.org/10.1080/09663690120050742>
- Djan, M. A. (2024). *Feminist geography: Impact and inclusion in geographical research*. University of Nebraska–Lincoln Digital Commons. <https://digitalcommons.unl.edu/nebanthro/202/>
- Drozdowski, D., Webster, N. A., Osborne, T., & Conradson, D. (2026). *A research agenda for emotional geographies*. Edward Elgar Publishing. <https://www.e-elgar.com/shop/gbp/a-research-agenda-for-emotional-geographies-9781803921234.html>
- Egharevba, J. O. & Osakue, P. V. (2025). Mapping the fear-scape of the University of Benin: spatial and social dimensions of perceived safety and their implications for campus life. *Forum geographic*. XXIV, Issue 2 pp. 213-237
https://www.researchgate.net/publication/401635045_Mapping_the_fear-scape_of_the_University_of_Benin_spatial_and_social_dimensions_of_perceived_safety_and_their_implications_for_campus_life
- Elledge, A. M. (2022). Insights from feminist geography: Positionality, knowledge production, and difference. *Journal of the Bulgarian Geographical Society*, 47, 1–10. <https://jbgs.arphahub.com/article/87749/download/pdf/>
- Erinosho, S., Femi-Oyewo, M., & Oduwole, E. O. (2021). Sexual harassment on campus: A study in a Nigeria university. *AGOGO Journal of Humanities*, 4(1). <https://doi.org/10.46881/ajh.v4i0.218>
- Evans, S. L., & Maddrell, A. (2019). Feminist geography in the UK: The dialectics of women-gender-feminism-intersectionality and praxis. *Gender, Place & Culture*, 26(9), 1271–1289. <https://www.tandfonline.com/doi/abs/10.1080/0966369X.2019.1567475>
- Fisher, B. S., & May, D. (2009). College Students' Crime-Related Fears on Campus: Are Fear-Provoking Cues Gendered? *Journal of Contemporary Criminal Justice*, 25, 300-321. <https://doi.org/10.1177/1043986209335013>
- Gardener, J., Cartwright, W., Duxbury, L., & others. (2019). Mapping perception of place through emotion, memory, senses, and the imaginary. *ICA Proceedings*. <https://doi.org/10.5194/ica-abs-1-100-2019>



- Guevara-Cue, G. (2025). Navigating emotional landscapes: A framework for mapping urban emotional experiences. *GeoJournal*. <https://doi.org/10.1007/s10708-025-10456-3>
- Hiemstra, N., & Billo, E. (2017). Introduction to focus section: Feminist research and knowledge production in geography. *The Professional Geographer*, 69(2), 284–290. <https://www.tandfonline.com/doi/abs/10.1080/00330124.2016.1208103>
- Hopkins, P. (2018). Feminist geographies and intersectionality. *Gender, Place & Culture*, 25(4), 585–590. <https://www.tandfonline.com/doi/abs/10.1080/0966369X.2018.1460331>
- Huang, D., Ceccato, V., & Kyttä, M. (2022). Safety perceptions in university campuses: The role of environment. *Crime Prevention and Community Safety*, 24(3), 266–285. <https://doi.org/10.1057/s41300-022-00148-y>
- Ilori, S. O., Ilori, A. A., & Alaba, E. V. (2024). Campus Criminality and Vulnerability of Victimisation among Undergraduate Students in Ekiti State Urban Universities. *International Journal of Research and Innovation in Social Science (IJRISS)*, 8(07), 2602–2612. <https://doi.org/https://dx.doi.org/10.47772/IJRISS.2024.807202>
- Johansson, S., & Haandrikman, K. (2021). Gendered fear of crime in the urban context: A comparative multilevel study of women's and men's fear of crime. *Journal of Urban Affairs*, 45(7), 1238–1264. <https://doi.org/10.1080/07352166.2021.1923372>
- Johnston, L. (2018). Intersectional feminist and queer geographies: A view from 'down-under'. *Gender, Place & Culture*, 25(4), 561–565. <https://www.tandfonline.com/doi/abs/10.1080/0966369X.2018.1460329>
- Kang, Y., Jia, Q., Gao, S., Zeng, X., Wang, Y., & others. (2019). Extracting human emotions at different places based on facial expressions and spatial clustering analysis. *Transactions in GIS*, 23(4), 737–752. <https://doi.org/10.1111/tgis.12512>
- Köseoglu, M. (2021). Fear of crime perceptions of university students. *Sociologia, Problemas e Práticas*, 96, 41–57. <https://doi.org/10.4000/spp.9017>
- Lorenc, T., Clayton, S., Neary, D., Whitehead, M., Petticrew, M., Thomson, H., Cummins, S., Sowden, A., & Renton, A. (2012). Crime, fear of crime, environment, and mental health and wellbeing: Mapping review of theories and causal pathways, *Health & Place*, 18(4) 757–765, ISSN 1353-8292, <https://doi.org/10.1016/j.healthplace.2012.04.001>
- Maddrell, A. (2016). Mapping grief: A conceptual framework for understanding the spatial dimensions of bereavement, mourning and remembrance. *Social & Cultural Geography*, 17(2), 166–188. <https://doi.org/10.1080/14649365.2015.1075579>
- Malinowska-Borowska, J., Czupryna, A., Buczkowska, M., & Kulik, A. (2026). People Living in Places with Limited Illuminance Declare Better Health and Higher Quality of Life in Environmental and Physical Domains. *Clocks & sleep*, 8(1), 3. <https://doi.org/10.3390/clockssleep8010003>
- Martínez-Mesa, J., González-Chica, D. A., Bastos, J. L., Bonamigo, R. R., & Duquia, R. P. (2014). Sample size: how many participants do I need in my research?. *Anais brasileiros de dermatologia*, 89(4), 609–615. <https://doi.org/10.1590/abd1806-4841.20143705>
- Mehta, V. (2013). Evaluating Public Space. *Journal of Urban Design*, 19(1), 53–88. <https://doi.org/10.1080/13574809.2013.854698>



- Mollett, S., & Faria, C. (2018). The spatialities of intersectional thinking: Fashioning feminist geographic futures. *Gender, Place & Culture*, 25(4), 565–577. <https://www.tandfonline.com/doi/abs/10.1080/0966369X.2018.1454404>
- Newman, O. (1973). *Defensible space: Crime prevention through urban design*. Macmillan.
- Osunde, I. L. (2024). Social Control Mechanisms and Female Sexual Harassment in Universities. *Journal of Social Theory and Research (JOSTAR)*, 4(1) 41-53. <https://publications.jostar.org/ng/sites/default/files/2024-10/Full%20Jostar%202024%20Vol.%204%20No.%201-49-61.pdf>
- Pain, R. (2000). Place, social relations and the fear of crime: A review. *Progress in Human Geography*, 24(3), 365–387. <https://doi.org/10.1191/030913200701540474>
- Piscitelli, A., & Perrella, A. M. (2017). Fear of crime and participation in associational life. *The Social Science Journal*, 54(2), 179-190. <https://doi.org/10.1016/j.soscij.2016.12.001>
- Prenzler, T. (2024). Creating defensible spaces and designing out opportunities for crime. In *Preventing crime and disorder in public places* (pp. 45–62). Springer. https://link.springer.com/chapter/10.1007/978-3-031-63764-3_2
- Reynald, D. M. (2015). Environmental design and crime events. *Journal of Contemporary Criminal Justice*, 31(1), 71–85. <https://doi.org/10.1177/1043986214552613>
- Roberts, N. (2022). *The dark and desolate campus: What can be done to enhance students' perceptions of safety on-campus?* *Safer Communities*, 21(3), 157–170. <https://doi.org/10.1108/SC-01-2022-0006>
- Rodó-de-Zárate, M., & Baylina, M. (2018). Intersectionality in feminist geographies. *Gender, Place & Culture*, 25(4), 547–553. <https://www.tandfonline.com/doi/abs/10.1080/0966369X.2018.1453489>
- Schreuder, E., Van Erp, J., Toet, A., & Kallen, V. L. (2016). Emotional responses to multisensory environmental stimuli: A conceptual framework and literature review. *SAGE Open*, 6(1), 1–19. <https://doi.org/10.1177/2158244016630591>
- Shariati, A., & Guerette, R. T. (2019). Resident students' perception of safety in on-campus residential facilities: Does crime prevention through environmental design (CPTED) make a difference? *Journal of School Violence*, 18(4), 531–546. <https://doi.org/10.1080/15388220.2019.1589517>
- Smith, M., Davidson, J., Cameron, L., & Bondi, L. (2016). *Emotion, place and culture*. Routledge. <https://doi.org/10.4324/9781315579527>
- Steinmetz, N. M., & Austin, D. M. (2014). Fear of criminal victimization on a college campus: A visual and survey analysis of location and demographic factors. *American Journal of Criminal Justice*, 39(3), 511–527. <https://doi.org/10.1007/s12103-013-9217-3>
- Tarus Silas (2025). Fear of Crime Among Campus Students: An Analysis of Residential Settings and Demographic Predictors in Kenya. *International Journal of Research and Innovation in Social Science (IJRISS)*, 9(07), 4720-4740. <https://doi.org/https://dx.doi.org/10.47772/IJRISS.2025.907000382>
- Valentine, G. (1989). The geography of women's fear. *Area*, 21(4), 385–390.
- Wrede, T. (2015). Theorizing space and gender in the 21st century. *Rocky Mountain Review*, 69(1), 1–6. <https://muse.jhu.edu/pub/143/article/580801/summary>



- Zeile, P., Resch, B., Exner, J. P., & Sagl, G. (2015). Urban emotions: Benefits and risks in using human sensory assessment for the extraction of contextual emotion information in urban planning. In *Planning support systems and smart cities* (pp. 209–225). Springer. https://doi.org/10.1007/978-3-319-18368-8_11
- Zeng, X., Zhang, B., Chen, S., Lin, Y., & Haans, A. (2025). Exploring the Impact of Daytime and Nighttime Campus Lighting on Emotional Responses and Perceived Restorativeness. *Buildings*, 15(6), 872. <https://doi.org/10.3390/buildings15060872>
- Zhao, W., Tan, L., Niu, S., & Qing, L. (2024). Assessing the Impact of Street Visual Environment on the Emotional Well-Being of Young Adults through Physiological Feedback and Deep Learning Technologies. *Buildings*, 14(6), 1730. <https://doi.org/10.3390/buildings14061730>

Ethical Approval

The study was conducted in accordance with established ethical guidelines for social and behavioural research. Respondents were informed about the purpose of the study, and participation was strictly voluntary. Confidentiality and anonymity of respondents were maintained throughout the research process, and no personal identifiers were collected or disclosed.

Consent to Participate

Informed consent was obtained from all participants prior to data collection. Respondents were adequately informed about the objectives of the study, the nature of their participation, and their right to withdraw from the study at any stage without any consequence. Only respondents who willingly agreed participated in the study.

Consent to Publish

The author (Jolly Osaretin Egharevba) consented to the publication of this manuscript. The study did not include any personally identifiable data, images, or information requiring additional participant publication consent.

Funding Declaration

There was no funding.

Clinical Trial Number

Not Applicable

Authors' Contributions

Jolly Osaretin Egharevba conceptualised and designed the study, conducted the fieldwork, analysed the data, interpreted the findings, and prepared the manuscript. I read and approved the final version of the manuscript before submission.