WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Identifying Risk Zones: Unveiling Hidden Crime Patterns in Residential Neighbourhoods of Cross River State, Nigeria

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ABSTRACT

The paper investigates the spatial dynamics and structural foundations of crime within residential activity zones in Cross River State, Nigeria. Situated within contemporary debates on urban insecurity, spatial inequality, and planning failures, the paper adopts a rigorous mixed-methods framework that merges empirical fieldwork with robust statistical analysis. Structured questionnaires were administered across eight selected urban centres, using a combination of multi-stage and systematic random sampling to elicit responses from household heads. The study's methodological integrity was validated using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity, confirming the dataset's suitability for Principal Component Analysis (PCA). Findings reveal that crime in residential areas is not randomly distributed but follows distinct structural patterns. PCA uncovered four major crime typologies: petty and opportunistic crimes; violent and lethal offences; coercive and gender-based deviance; and crimes linked to organised syndicates. These categories mirror the state's socio-spatial disparities, infrastructural deficiencies, and systemic governance gaps. The four components cumulatively explained over 62% of total variance, underscoring the strength and reliability of the model. The study offers valuable insights into the interwoven nature of crime and urban form in rapidly urbanising African contexts. It recommends a proactive, evidence-based urban safety strategy that transcends mere enforcement, calling for inclusive governance and spatially responsive planning. Stronger collaboration among security agencies, urban planners, civil society, and residents is essential to fostering secure and resilient residential communities.

Keywords: Urban crime typologies, Principal Component Analysis, Spatial inequality, Residential insecurity, Urban governance

1. Introduction

In the complex terrain of contemporary urbanism, the spatial manifestations of crime have increasingly come under scholarly scrutiny, especially, due to the way cities grapple with the mounting challenges of insecurity, inequality, and spatial injustice. However, crime is of global concern especially in the 21st century and residential activity areas are far from being neutral or inert spaces as there function as active arenas where spatial configurations, socio-economic structures, and behavioural patterns intersect to produce varying degrees of vulnerability and safety. Within residential districts locales, crime emerges not merely as an isolated or deviant act but as an expression of deeper structural, environmental, and spatial dysfunctions.

In Africa particularly, the spatial turn in criminological thought has assumed critical significance. Thus, urban areas within Africa are undergoing rapid transformations marked by exponential population growth, unregulated urban sprawl, infrastructural deficit, and inconsistent governance (UN-Habitat, 2020). Nigeria, as a paradigmatic case, encapsulates these contradictions. As the most populous nation on the African continent and one experiencing some of the highest rates of urbanisation globally, Nigeria's urban centres are increasingly becoming contested spaces where prosperity and precarity co-exist uneasily. The spatial distribution of crime within these centres is neither random nor apolitical; rather, it reflects the uneven outcomes of urban development, policy neglect, and socio-spatial fragmentation (Agbola, 1997; Alemika and Chukwuma, 2005).

Within this national context, Cross River State occupies a unique socio-spatial and political niche. Historically renowned for its relative tranquillity, eco-tourism potential, and cultural diversity, the state has, over the past two decades, experienced accelerated urban transition. Calabar, the capital city, alongside other urban nodes such as Ikom and Ogoja, has witnessed a surge in residential construction, population densification, and infrastructural expansion and developments largely catalysed by state-led urban renewal initiatives, tourism-centred economic strategies, and migratory inflows from conflict-prone regions. However, these transformations have not been uniformly beneficial. While some neighbourhoods have evolved into secure, affluent enclaves, others have degenerated into crime-prone zones, plagued by burglaries, cultism, domestic violence, and illicit drug activities.

Despite the growing incidence of crime in residential areas of Cross River State, scholarly literature on the spatial distribution of criminal activity in these areas remains conspicuously thin. Existing studies tend to privilege macro-level generalisations or focus disproportionately on metropolitan megacities such as Lagos and Abuja, thereby occluding the unique spatial logics operative in smaller, yet rapidly transforming, urban centres like those in Cross River. This paper responds to that gap by offering an in-depth, spatially nuanced analysis of crime patterns within residential activity areas of the Cross

River State. It interrogates how environmental design, neighbourhood morphology, infrastructural inequality, and land-use patterns influence the spatial distribution and typology of crime.

2. Crime Patterns in Residential Activity Areas

The spatial configuration and socio-functional characteristics of residential activity zones form an essential locus for understanding the complexities of urban crime. These zones are not merely passive backdrops to illicit behaviours but are active terrains in which socio-economic inequalities, environmental vulnerabilities, and behavioural propensities converge to structure the contours of crime. Contemporary urban criminological discourse recognises that crime in residential zones is inextricably tied to the spatial order, social disintegration, and institutional ineffectiveness that typify many urban contexts (Bottoms and Wiles, 2002).

Spatial criminology has extensively theorised how residential landscapes mediate crime patterns. Brantingham and Brantingham (1993) assert through their Crime Pattern Theory that the spatial geometry of daily routines comprising nodes, paths, and edges which influences where crimes are most likely to occur. Residential areas, being key nodes in urban life, often lie within offenders' awareness spaces, thus heightening their exposure to victimisation. Routine Activity Theory by Cohen and Felson (1979) remains seminal, positing that the simultaneous convergence of a motivated offender, a suitable target, and the absence of capable guardianship generates ideal conditions for crime. This confluence is disproportionately visible in urban residential contexts suffering from socio-spatial fragmentation, low collective efficacy, and insufficient public surveillance (Felson, 2002). Complementarily, Crime Prevention Through Environmental Design (CPTED), grounded in the work of Jeffery (1971), emphasises the critical role of spatial planning in either enabling or deterring criminal activity. Substandard housing layouts, obscured sightlines, and poor illumination: characteristics endemic to many urban residential precincts—create criminogenic conditions that facilitate illicit conduct.

Criminal activity in residential areas spans multiple typologies, each reflecting distinct socio-spatial underpinnings. These include property crimes (e.g., burglary, vandalism), interpersonal violence (e.g., domestic abuse), and drug-related offences. Evidence suggests that residential burglary remains one of the most prevalent urban crimes, often concentrated in areas marked by low income and high occupancy turnover (Wiles & Costello, 2000). In the Nigerian context, studies identified an upsurge in residential crime due to poor urban governance, inadequate infrastructure, and the spatial concentration of poverty. High-density informal settlements in Lagos, Port Harcourt, and Calabar, for example, exhibit heightened incidences of theft, assault, and cult-related violence. These environments often lack effective policing and municipal support, thus becoming entrenched crime hotspots (Umar *et al.*, 2021).

Geographic profiling and GIS-based analysis have further revealed how crime clusters within specific urban microzones. According to Chainey and Ratcliffe (2005), such mapping techniques show that crime does not occur randomly but follows discernible spatial patterns linked to environmental conditions and routine behaviours. This technological application validates the predictive capacities of both Crime Pattern Theory and Environmental Criminology. Crime in residential areas is temporally contingent, with distinct daily and seasonal fluctuations. Wright and Decker (1994), in their qualitative inquiry into offender decision-making, observed that residential burglaries frequently occur during daylight hours when dwellings are unoccupied. In contrast, violent crimes such as domestic assaults tend to spike during weekends and night-time periods, often exacerbated by alcohol use and social stress (Livingston, 2008). Socio-demographic variables such as youth density, family instability, and educational disenfranchisement correlate strongly with residential crime. Sampson, Raudenbush, and Earls (1997) argue that collective efficacy, defined as mutual trust and shared norms for informal social control, serves as a critical buffer against such crimes. Neighbourhoods with high residential mobility and social disorganisation, however, often lack this protective cohesion, rendering them more susceptible to criminal infiltration.

In sub-Saharan African urban centres, the United Nations Human Settlements Programme (UN-Habitat, 2020) reports that socio-economic exclusion, coupled with institutional failures in planning and law enforcement, significantly contributes to residential crime. A lack of recreational and employment opportunities for urban youth further compounds these dynamics. Addressing crime in residential zones requires a multifaceted urban planning approach that integrates spatial, social, and institutional interventions. Cozens, Saville, and Hillier (2005) highlight CPTED as a key strategy, advocating for design elements that enhance visibility, reinforce territoriality, and restrict illegitimate access. Empirical evidence suggests that urban forms that foster natural surveillance and community ownership are associated with lower crime rates.

In Nigeria, the implementation of CPTED principles remains emergent. Iwuoha and Nwankwo (2021) document how the installation of street lighting and community policing initiatives in Owerri led to measurable reductions in night-time offences. However, scaling such interventions is constrained by governance deficits, inconsistent funding, and weak inter-agency coordination. Participatory governance frameworks, which empower local residents in security co-production, offer promising pathways for crime mitigation. These models harness community knowledge, foster trust between civilians and police, and strengthen informal social controls; an approach increasingly advocated in urban safety policies globally (UN-Habitat, 2019). Crime patterns within residential activity areas are symptomatic of deeper socio-spatial and institutional contradictions. Understanding these patterns demands a critical engagement with theories of space, social organisation, and urban governance. Contemporary planning practice must therefore transcend mere physical interventions, embracing holistic, inclusive, and evidence-based strategies that address both the symptoms and root causes of residential crime. Only through such integrated responses can cities, particularly in the Global South, foster safer, more liveable, and resilient neighbourhoods.

3. Materials and Methods

3.1 Study Area

Cross River State is situated in the South-south geopolitical zone of Nigeria. It encompasses a vast geographical expanse situated between Latitudes 4°28′ and 6°55′ North of the Equator and Longitudes 7°50′ and 9°28′ East of the Greenwich Meridian. It shares its northern frontier with Benue State, while its northwestern boundary is demarcated by Ebonyi State and its western extent by Abia State. To the south, it is bounded by Akwa Ibom State and the Atlantic Ocean, while its eastern periphery adjoins the Republic of Cameroon. Spanning an approximate landmass of 23,074 square kilometres, Cross River State represents a significant geopolitical entity within Nigeria.

For the purpose of administrative efficiency and governance optimisation, Cross River State is systematically delineated into eighteen (18) Local Government Areas (LGAs), which are further aggregated into three senatorial districts: Northern, Central, and Southern. The Northern Senatorial District comprises five (5) LGAs: Obudu, Obanliku, Bekwarra, Ogoja, and Yala. The Central Senatorial District consists of six (6) LGAs: Boki, Ikom, Etung, Obubra, Yakurr, and Abi. The Southern Senatorial District encompasses seven (7) LGAs: Biase, Akamkpa, Odukpani, Calabar Municipality, Calabar South, Akpabuyo, and Bakassi. This hierarchical administrative framework underpins governance structures, resource distribution mechanisms, and developmental stratagems across the state. The demographic trajectory of Cross River State has demonstrated a consistent and pronounced escalation over the decades. Official census data from 1991 recorded the state's population at 1,911,297 individuals (NPC, 1991). By 2006, this figure had surged to 2,888,966 (NPC, 2006), reflecting a projected annual growth rate of 3 per cent, as postulated by Inah (2021). Consequently, by the close of 2023, estimations indicated a population expansion to 4,969,372 inhabitants. In terms of demographic composition, females constitute 49.2 per cent of the populace, whilst males account for 50.8 per cent. Projections by Ushie *et al.* (2020) further anticipate that by 2050, the state's population will reach an estimated 11,567,868 individuals.

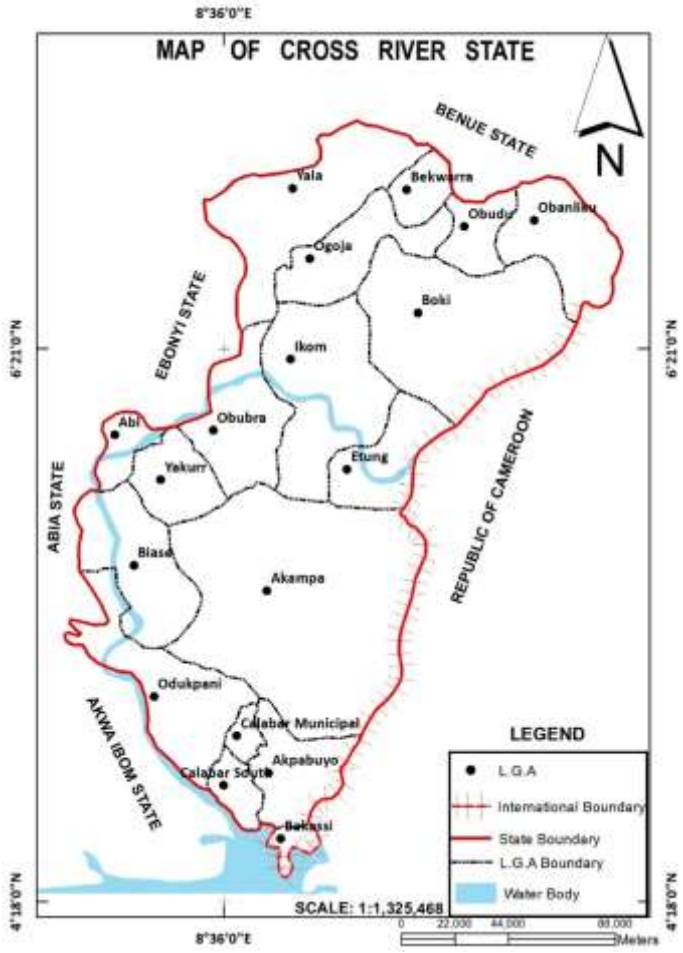

Figure 1: Map of Cross River State

Source: GIS Laboratory, Department of Urban and Regional Planning, University of Cross River State, (2024)

3.2 Methods

The research design elucidates the strategic framework, methodological approach, and specific techniques employed in the processes of data collection and analysis. The paper adopted questionnaire administration as the main instrument for data collection. The spatial unit of data collection for this study was delineated at the community level. The study population comprises the heads of households residing in urban centres within Cross River State. In determining the sample size, a multi-stage random sampling technique was employed to select samples from these urban centres. Cross River State comprises a total of 17 urban centres. From these urban centres, Eight were randomly selected and sampled for the study. The sampled areas were Calabar, Ugep, Ikom, Ikang, Akamkpa Urban, Obubra Urban, Itigidi, and Yala. Within each of the eight selected urban centres, a systematic random sampling method was applied to select communities. In all, 97 urban communities were selected and used for the study. The population of the eight urban centres sampled in Cross River State was obtained from both the 1991 population census, sourced from the Calabar area office, and an estimation of household sizes across the sampled areas within the study region. The population in the study area was projected using the model outlined in Equation 1:

$Pt = Po (1 + r /100)^{n}$ ---------- Equation (1)

Where

Po = base population (1991 Population), n = number of years (33years), r =population growth

rate (3% for Cross River State), Pt =current population to be determined, 1 =constant

As a result of these projections and estimations, by 2024, the population of residents across the eight urban centres was determined to be 1,624,391 persons. This figure was subsequently converted into household units by applying an average household size of six persons, yielding a total of 270,681 households. This total number of households constituted the sampling frame for the study. To determine the appropriate sample size, the Taro Yamane formula was employed, as demonstrated in Equation 2

$n = \frac{N}{1+N(e)^2}$- (Equation 2)

Where: n = sample size, N = population of the study, e = tolerable error (5%)

Through the application of the Taro Yamane statistical model, a sample size of 399 households was established as the minimum required sample size. However, the sample size allocation for each community was determined by dividing the number of households in each community by the total number of households across the study area and then multiplying the result by the study's sample size of 399. The outcome of this calculation is presented in Table 1.

A quasi-proportional representation method was subsequently applied to refine the allocation of sample sizes per community. For the purposes of this study, any community that initially produced between one and nine respondents was adjusted to include at least ten respondents. Although the Taro Yamane formula initially yielded a minimum sample size of 399, the application of the quasi-proportional representation method, which required an increase in sample sizes for communities with fewer than ten respondents, resulted in an overall sample size of 1,066. Accordingly, 1,075 copies of the questionnaire were distributed across households in the study area. The study variables were computed in Table 2 and the units of measurement for each variable included in the study. Data were analysed using factor analysis. The five point Likert scale graduation was also used in the summary.

Table 2: Units of Measurements

S/N	Variable Name	Definition	Unit of Measurement
1.	Theft	Theft victimisation within activity area	Likert scale
2.	Assault	Assault within activity area	Likert scale
3.	Vandalism	Property vandalization within activity area	Likert scale
4.	Burglary	Burglary within activity area	Likert scale
5.	Kidnapping	Kidnapping within activity area	Likert scale
6.	Rape	Rape within activity area	Likert scale
7.	Culpable homicide	Killings within activity area	Likert scale
8.	Robbery	Robbery within activity area	Likert scale
9.	Arson	Arson within activity area	Likert scale
10.	Drug trafficking	Drug trafficking within activity area	Likert scale
11.	Human trafficking	Human trafficking within activity area	Likert scale

Authors Conceptualization, (2024)

4. Findings and Discussions

Figure 3 explains predominant crime occurrence in residential zones of Cross River State. The most prevalent crime types across multiple areas include theft, assault and burglary. Robbery exhibited a high occurrence in few urban communities whereas drug trafficking is also notably widespread in some locations as indicated in figure 3. Kidnapping is reported at a substantial frequency, whereas vandalism and arson appear relatively uncommon. The least frequently occurring crimes within residential areas are human trafficking and rape.

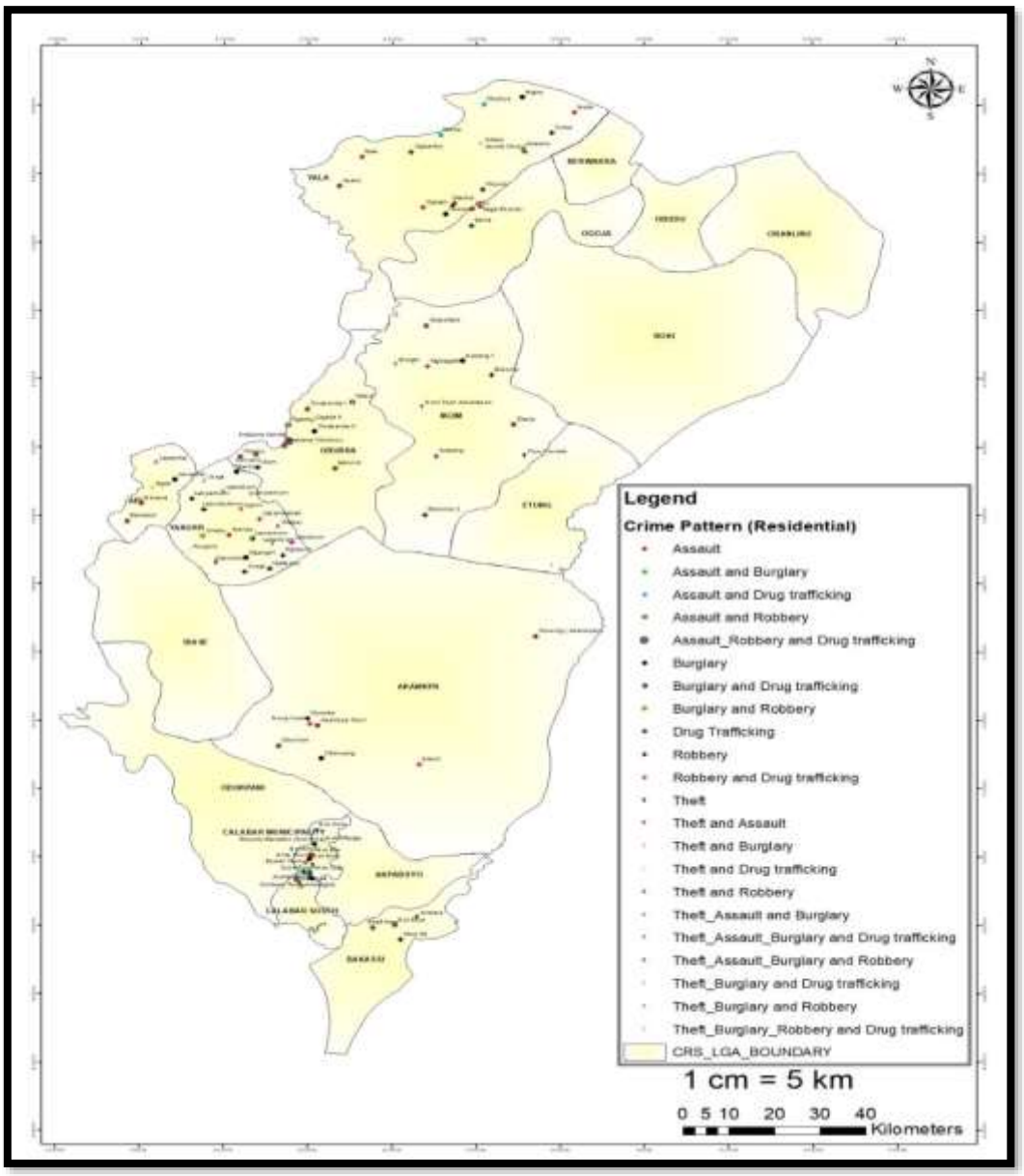

Figure 3: Crime Patterns in Residential Activity Areas

Source: Field Survey, 2025

Table 3: KMO and Bartlett's Test[a]

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.565
Bartlett's Test of Sphericity	Approx. Chi-Square	104.324
	Df	55
	Sig.	.000

a. Based on correlations

Source: Statistical Computation, 2025

Prior to the execution of Principal Component Analysis (PCA), an examination of the dataset's suitability for factor analysis through preliminary diagnostics most notably the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy **and** Bartlett's Test of Sphericity were conducted**.** Basically, The KMO index evaluates the proportion of variance among variables that might be common variance, i.e., variance that could potentially be explained by underlying latent factors. As indicated in Table 3, the computed KMO value of 0.565 falls within the "mediocre" range, according to Kaiser's (1974). As such, a KMO of 0.565 indicates that the dataset is adequate for factor extraction justifying the progression to PCA. The simultaneous consideration of both diagnostics affirms the methodological appropriateness of conducting factor analysis on the dataset. In applied criminological and urban planning contexts, this implies that the crime data possess latent dimensionalities capable of informing theoretically sound and spatially responsive interventions. The output from the KMO and Bartlett's tests underscores a cautiously permissible foundation for factor analytic procedures.

Table 4: Total Variance Explained

		Initial Eigenvalues[a]			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[b]
	Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
Raw	1	.529	25.686	25.686	.529	25.686	25.686	.408
	2	.321	15.570	41.256	.321	15.570	41.256	.410
	3	.236	11.471	52.727	.236	11.471	52.727	.326
	4	.199	9.684	62.411	.199	9.684	62.411	.213
	5	.171	8.316	70.726				
	6	.131	6.371	77.097				
	7	.125	6.089	83.186				
	8	.117	5.679	88.866				
	9	.090	4.369	93.235				
	10	.085	4.107	97.342				
	11	.055	2.658	100.000				
Rescaled	1	.529	25.686	25.686	1.920	17.451	17.451	1.532
	2	.321	15.570	41.256	1.221	11.096	28.547	1.429
	3	.236	11.471	52.727	1.246	11.328	39.875	1.455
	4	.199	9.684	62.411	1.051	9.556	49.431	1.338
	5	.171	8.316	70.726				
	6	.131	6.371	77.097				
	7	.125	6.089	83.186				
	8	.117	5.679	88.866				
	9	.090	4.369	93.235				
	10	.085	4.107	97.342				
	11	.055	2.658	100.000				

Extraction Method: Principal Component Analysis.

a. When analyzing a covariance matrix, the initial eigenvalues are the same across the raw and rescaled solution.

b. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Source: Statistical Computations, 2025

Table 4 offers a critical statistical lens into the dimensional structure underlying the crime typologies recorded in the residential domains of Cross River State. As an output of PCA, it provides essential information concerning the proportion of total variance accounted for by each extracted component. The analysis deploys both initial eigenvalues and rotated sums of squared loadings to offer a comprehensive interpretive platform for understanding the explanatory strength of each component. The initial eigenvalues represent the total variance accounted for by each principal component before any rotation is applied. In the unrotated (raw) solution, the first four components cumulatively explain approximately 62.41% of the total variance. This suggests that the first four components collectively capture the majority of systematic variance in the crime dataset, with diminishing contributions from subsequent components.

Upon extraction, prior to rotation, the cumulative variance explained remains stable at 62.411% for the first four components. This statistical constancy underscores the robustness of the PCA model and affirms the significance of these four dimensions in representing the latent structure of urban criminality in the study area. The rotation process specifically, the use of Oblimin rotation redistributes the variance to achieve a more interpretable factor solution, particularly when components are expected to correlate. The rotated solution still accounts for a substantial 49.431% of total variance, albeit slightly lower than the unrotated solution. This is a recognised statistical trade-off, wherein rotation prioritises interpretability over total explained variance. The redistribution also implies enhanced thematic clarity, allowing each component to bear a distinct criminological narrative.

Conventionally, components with eigenvalues exceeding 1.0 are retained, as they represent dimensions explaining more variance than a single observed variable. In this case, only the first four components meet this criterion in both raw and rescaled matrices. The subsequent components, contributing less than 1.0 each to the eigenvalue spectrum, are considered statistically negligible and excluded from the final interpretive model. The cumulative variance explained by the first four components both prior to and after rotation attests to the multidimensional nature of crime patterns within residential activity areas in Cross River State. These components encapsulate diverse but interrelated phenomena ranging from opportunistic theft and violent crimes to exploitative and organised criminal networks. The distribution of variance across these components reflects a fragmented yet structured ecology of urban criminality. This multidimensional configuration offers criminologists, urban safety strategists, and law enforcement agencies a theoretically enriched scaffold to design spatially nuanced interventions. Policies and planning models that engage with these four core components are more likely to produce effective and targeted outcomes, grounded in empirical understanding rather than speculative generalisation.

In all, the Total Variance Explained in Table 4 affirms the explanatory sufficiency of the four retained components, each offering unique insights into the socio-spatial dynamics of crime within Cross River State's residential domains. The systematic variance captured through PCA reinforces the methodological credibility of the study and provides a foundational architecture for deeper analytical and policy explorations. This rigorous dimensional mapping of urban crime stands as a crucial epistemological contribution to both localised urban studies and broader criminological discourse.

Table 5: Pattern Matrix[a]

	Raw Component				Rescaled Component			
	1	2	3	4	1	2	3	4
Theft	.190	-.001	-.001	-.010	.612	-.004	-.004	-.032
Assault	.005	-.006	-.110	-.010	.016	-.018	-.347	-.033
Vandalism	-.009	.012	.108	-.005	-.026	.033	.293	-.012
Burglary	-.021	-.008	-.130	-.137	-.057	-.022	-.355	-.374
Kidnapping	.054	.136	-.477	.132	.101	.256	-.896	.248
Rape	.007	.125	.063	-.215	.018	.308	.156	-.531
Homicide	.009	.569	-.030	-.103	.014	.962	-.050	-.174
Robbery	.562	-.002	-.029	-.008	.978	-.004	-.051	-.013
Arson	.017	.200	-.002	.062	.041	.494	-.006	.153
Drug trafficking	-.016	.068	-.031	.204	-.046	.194	-.088	.578
Human trafficking	.015	.034	.181	.275	.036	.081	.432	.656

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 13 iterations.

The analytical inquiry presented in Table 5 reflects a statistical deconstruction of prevailing crime modalities in residential locales across Cross River State, Nigeria mmploying Principal Component Analysis (PCA) with Oblimin rotation and Kaiser Normalisation for excavating underlying structural

dimensions embedded within the observed crime data. Upon meticulous scrutiny of the rotated pattern matrix and the rescaled factor loadings, four dominant components emerged. These components have been appropriately designated based on thematic affinity and empirical commonality, each encapsulating distinct criminogenic undercurrents.

Component One: Petty Opportunistic Criminality

This dimension is predominantly characterised by salient factor loadings on **robbery** (0.978) and **theft** (0.612) infractions typically emblematic of socio-economic desperation, suboptimal urban surveillance, and environmental negligence. These infractions are often spontaneous and flourish within inadequately regulated or poorly illuminated residential spheres. The overwhelming influence of robbery, as evidenced by its high loading, signals a recurrent, spatially concentrated threat that warrants urgent infrastructural and policy attention. As seen in Figure 3, locations where these crime types dominate include Ikot Effanga, Akim Qua Town, Mbukpa among other locations

Component Two: Lethal and Violent Criminal Constructs

This axis aggregates crimes of profound physical and psychological trauma, exemplified by a formidable loading on **homicide** (0.962), alongside moderate influences from **arson** (0.494), **rape** (0.308), and **kidnapping** (0.256). These are indicative of high-impact violence and reflect deep-seated deficiencies in community policing, judicial deterrence, and social cohesion. Their clustering under this component bespeaks systemic fragility in security architecture and a deteriorating public trust in enforcement agencies. Residential areas with significant high loadings of such crimes are Ntankpo, Obioko, Ediba Akim and others.

Component Three: Coercive, Gendered, and Exploitative Deviance

This component presents a distinctive structure, with a negative high loading on **kidnapping** (-0.896), juxtaposed with moderate positive associations with **human trafficking** (0.432) and **vandalism** (0.293). This component typifies criminal forms rooted in coercion, gender-based exploitation, and socio-political decay. The inverse correlation associated with kidnapping may suggest its differentiation in spatial incidence or motivational dynamics relative to the other constituents. Residential areas with significant high loadings of crimes in these category are Ikot Ishie, Efut Uwanse among others.

Component Four: Organised, Networked and Illicit Syndicates

The fourth factor encapsulates crimes that thrive on transnational coordination and illicit economic exchange. **Human trafficking** (0.656) and **drug trafficking** (0.578) dominate this structure, highlighting the surreptitious presence of entrenched criminal syndicates within urban residential matrices. These infractions often operate beneath the veneer of normalcy, utilising urban anonymity and systemic corruption to evade detection. Residential areas in Ikot Omin, Ikot Ansa among other residential locations.

5. Conclusion and Recommendations

This study provides a deep and grounded understanding of how different types of crime are distributed and interlinked within residential areas in Cross River State, Nigeria. By employing Principal Component Analysis (PCA) after testing the data's suitability using the KMO and Bartlett's tests, the analysis uncovered underlying structures within the crime data. Although the KMO value was modest, it remained above the threshold, and alongside a highly significant Bartlett's test, it justified moving forward with factor analysis.

The results reveal that crime within these communities does not occur in isolation. Rather, it follows discernible patterns, shaped by a mixture of social, economic, and environmental influences. From the analysis, four clear categories of crime emerged: the first, petty and opportunistic crimes, such as theft and robbery, often arise in neglected urban environments and are fuelled by poverty and lack of oversight. The second group comprises violent crimes manifesting in homicide, arson, rape, and kidnapping which reflect deeper issues around public safety, weak institutions, and social breakdown. A third category includes crimes related to coercion and exploitation, such as human trafficking and gender-based violence, showing how crime can stem from deeply rooted inequalities. Lastly, the presence of organised criminal activities particularly drug and human trafficking suggesting that some neighbourhoods are being exploited by networks that operate discreetly within everyday urban life.

These findings go beyond simply listing crime types. They reveal the complexity and interconnection between different forms of criminal behaviour, shaped by the broader social and spatial realities of the state. Crime in these areas cannot be addressed through simple, one-size-fits-all solutions. Instead, a coordinated and informed response is needed; one that understands the local context and tackles the structural causes of crime, not just its symptoms. This study, therefore, highlights the importance of integrating urban safety into broader planning and governance strategies. It calls for stronger partnerships between planners, security agencies, community leaders, and civil society groups. With such a collaborative and evidence-based approach, Cross River State, and other similar regions, can begin to move from simply reacting to crime, to actively building safer, more resilient communities.

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