

Journal of Development and Society, Faculty of Social Sciences, University of Abuja

Vol.7.2, 2026 <https://uniabujafsos.com.ng/> ISSN:0331-000

Population Structure and Violent Crime in Nigeria: Evidence from Youth and Gender Dynamics,
2000–2023

By

Khadija Muhammad Usani

Department of International Relations, Skyline University Nigeria, Kano

and

Nyam Elisha Yakubu PhD.

*Department of International Relations, Skyline University Nigeria, Kano
nyameelishayaubu@gmail.com*

Abstract

This study examines the relationship between population dynamics and violent crime in Nigeria, with particular emphasis on demographic composition. While existing studies largely focus on structural and institutional drivers of violence, the role of population structure remains insufficiently specified. Using annual time-series data from 2000 to 2023, the study employs quantitative analysis in IBM SPSS Statistics to assess the effects of total population, youth population, male youth population, and female youth population on violent crime. The findings show that population growth is positively associated with violent crime; however, its explanatory power is limited when considered in aggregate form. More precise effects emerge when population is disaggregated. Youth population demonstrates a stronger relationship with violent crime, while male youth population exhibits the most pronounced influence among all variables. Female youth population also shows a statistically significant relationship, although its effect is comparatively weaker. The study establishes that violent crime is more strongly driven by demographic composition than by population size alone. This reinforces the relevance of Youth Bulge Theory while extending its application to account for broader youth dynamics. The findings highlight the importance of targeted, youth-focused policy responses in addressing violent crime in rapidly growing demographic contexts.

Keywords: Population, Violence, Crime, Youth, Gender Dynamics

1. Introduction

Since the end of the Cold War, the nature of global security has shifted from interstate warfare to intrastate conflicts involving identity-based violence and non-state actors, often described as “new wars” (Kaldor, 2012). Contemporary patterns of violence reflect this transformation, as large-scale interstate conflicts have declined relative to other forms of violence, particularly interpersonal and criminal violence. According to the United Nations Office on Drugs and Crime, there were approximately 458,000 victims of intentional homicide worldwide in 2021, corresponding to a global homicide rate of 5.8 per 100,000 population (UNODC, 2023a). Notably, homicide accounted for more deaths than armed conflict and terrorism combined, underscoring its centrality within contemporary security and development discourse (UNODC, 2023a). Furthermore, violence is unevenly distributed globally; regions such as Latin America account for a disproportionately high share of homicides relative to their population size, highlighting the spatial concentration of insecurity (UNODC, 2023a).

The World Bank estimates that one in six people globally is exposed to conflict, with significant implications for human security (World Bank, 2020a). More broadly, violent conflict and crime impose substantial economic costs, with global violence estimated to exceed \$17 trillion annually, representing a significant burden on global development (Institute for Economics & Peace, 2023). Closely linked to these developments is the increasing role of state fragility in shaping patterns of violence and insecurity. The Organisation for Economic Co-operation and Development identifies 61 contexts experiencing high or extreme fragility, accounting for approximately 25% of the global population (OECD, 2025a). These fragile contexts are disproportionately burdened by poverty, hosting 72% of the world’s extreme poor, with projections indicating that up to 92% of the global extreme poor may be concentrated in such environments by 2040 (OECD, 2025a). Similarly, the World Bank estimates that over half, and potentially up to two-thirds, of the global extreme poor will reside in fragile and conflict-affected settings by 2030 (World Bank, 2020a). These trends highlight the strong interconnection between fragility, poverty, and violence, and reinforce the need to examine the structural conditions underpinning insecurity.

Nigeria constitutes a critical case within this broader framework, given its status as Africa’s most populous country and its central role in regional security dynamics. Patterns of violence in Nigeria are persistent and multifaceted, encompassing insurgency, banditry, communal conflict, and urban crime. Nigeria Watch reports approximately 12,162 violent deaths in 2024, with a cumulative total of 208,998 deaths recorded between 2006 and 2024 (Nigeria Watch, 2024). Similarly, the Armed Conflict Location & Event Data Project reports 9,498 conflict-related fatalities in 2024 alone (ACLED, 2025). At the regional level, Nigeria accounted for approximately 44.5% of conflict-related deaths in West Africa between January and June 2025, highlighting its central role in regional insecurity (CDD West Africa, 2025). With an estimated homicide rate of 10–11 per 100,000 population, Nigeria exceeds the global average, reinforcing its classification as a high-violence context (UNODC, 2023a). These patterns underscore both the scale and persistence of violence and the importance of understanding its underlying drivers.

A defining characteristic of the Nigerian context is its rapid demographic expansion, which constitutes a major structural factor with significant implications for insecurity. Nigeria’s

population reached over 232 million in 2024 and has nearly doubled since 2000, growing at an annual rate of approximately 2.1% (World Bank, 2024a). Projections indicate that the population may reach approximately 400 million by 2050, positioning Nigeria among the most populous countries globally (UNFPA, 2024). This rapid growth places increasing pressure on economic resources, public infrastructure, and governance systems. Importantly, Nigeria's demographic structure is markedly youthful, with over 60% of the population under the age of 25 (United Nations, 2022). Such a youth-dominated population structure is often associated with heightened risks of social instability, particularly where economic opportunities are limited.

However, population growth is not homogeneous, and its effects may vary across demographic groups. Youth populations represent a critical segment of the population due to their concentration within economically active and socially dynamic age groups. Within this cohort, male youth are often more strongly associated with violent behaviour due to higher exposure to unemployment, social exclusion, and risk-taking tendencies, while female youth tend to exhibit different patterns of involvement in violence. These distinctions suggest that aggregate population measures may obscure important variations in how demographic pressures translate into violent outcomes.

Urbanisation further reinforces these structural pressures. The proportion of Nigeria's population residing in urban areas has increased significantly, reaching over half of the total population in recent years (World Bank, 2024b). Rapid urban growth, particularly when not matched by adequate infrastructure and institutional capacity, may generate social disorganisation, intensify competition over limited resources, and increase the likelihood of violence.

Despite the extensive body of literature on violent crime in Nigeria, existing studies have largely emphasised poverty (Nogales & Oldiges, 2024; Eriamiatoe, 2025; Okunlola & Okafor, 2022; Tollefsen, 2020), insecurity (Eneji & Agri, 2020; Atai & Esetang, 2024; Ugwuoke et al., 2023; Oladoyin et al., 2024), inequality (Adeleye & Jamal, 2020; Aborisade, 2022; Ajide, 2021), governance failure (Ugwuoke et al., 2020; Sheu & Ogunsola, 2024; Uduo & Ofu, 2025; Chukwudi & Victor, 2025), and insurgency (Adisa, 2021; Agbu et al., 2020) as primary drivers of violence, while demographic factors have generally been treated as secondary or conditional influences. This represents a limitation, particularly in a context characterised by rapid population growth and a pronounced youth structure.

Against this background, this study examines the effect of population dynamics on violent crime in Nigeria between 2000 and 2023. Specifically, it investigates whether general population growth, youth population growth, male youth population growth, and female youth population growth exert statistically significant effects on violent crime. By disaggregating population growth into age and gender dimensions, the study provides a more precise assessment of the role of demographic factors in shaping violent crime.

2. Literature Review

The literature on demographic change and violence suggests that population growth can influence violent crime, although its effects are not uniform across contexts. Early criminological work by Braithwaite (1975) argues that population growth may increase crime through social pressure and expanded opportunities for deviance. Subsequent empirical studies provide mixed but generally

supportive evidence. Lee and Jang (2021), examining the relationship between demographic changes and crime trends, find that reductions in population are associated with declines in violent crime, suggesting that increases in population may contribute to higher crime levels. However, more recent studies indicate that this relationship is not linear. Barton et al. (2024), analysing suburban growth in Frisco, Texas, show that rapid population expansion does not consistently lead to increases in violent or property crime. Similarly, Barton et al. (2025), in their analysis of multiple forms of violence in a rapidly expanding suburb, find that population growth produces varied effects across different types of violence. These findings suggest that while general population growth may exert a measurable influence on violent crime, its explanatory power is limited when considered in aggregate, as it may obscure important compositional dynamics.

Greater explanatory precision emerges when population is disaggregated into its age structure, particularly youth population dynamics. Juárez et al. (2022), using subnational panel data, demonstrate that age structure plays a significant role in explaining variations in violent youth crime, especially when considered alongside youth unemployment and education. Their findings indicate that youth population concentration is more closely associated with violent outcomes than undifferentiated population growth. Similarly, Ameen (2021), González et al. (2025) show that increases in the proportion of youth within key age cohorts are positively associated with higher homicide rates, reinforcing the relevance of the age–crime relationship. These studies suggest that youth population growth provides a more direct and theoretically grounded explanation of violent crime compared to general population growth.

Further refinement of this perspective highlights important gendered dimensions within youth populations. Juárez et al. (2022) indicate that male youth cohorts play a more prominent role in shaping violent crime, particularly under conditions of socioeconomic stress. At the individual level, Goodwin et al. (2022) find that male youths are significantly more likely to engage in violent offending than females. Similarly, Yan et al. (2024) demonstrate that predictors of violent crime are more strongly associated with males than females, indicating that male involvement in violence is more directly linked to demographic and structural factors. These findings suggest that male youth population growth is more strongly associated with violent crime and is likely to exert a greater influence than youth population growth considered in aggregate.

In contrast, the literature provides weaker support for a direct relationship between female youth population and violent crime. Goodwin et al. (2022) show that female youths exhibit lower levels of involvement in violent offending and are influenced by different protective and psychosocial factors. Similarly, Yan et al. (2024) find that several predictors of violent crime are statistically significant for males but not for females, indicating that female involvement in violence follows a different and less direct pattern. These findings suggest that increases in female youth population may not translate into violent crime in the same direct or statistically robust manner as increases in male youth population.

The literature indicates that while general population growth may influence violent crime, its explanatory power is limited when considered in isolation. More precise insights emerge when demographic composition is taken into account, particularly youth populations and gender-specific cohorts. Accordingly, this study advances the following hypotheses:

H1: General population growth has a significant positive effect on violent crime in Nigeria.
H2: Youth population growth has a significant positive effect on violent crime in Nigeria.
H3: Male youth population growth has a significant positive effect on violent crime in Nigeria.
H4: Female youth population growth has a statistically insignificant effect on violent crime in Nigeria.

3. Theoretical Framework

This study is anchored in Youth Bulge Theory, a demographic perspective most prominently advanced by Henrik Urdal (2006) and earlier associated with Gunnar Heinsohn (2003). The theory posits that societies experiencing rapid population growth, particularly those characterised by disproportionately large cohorts of young people, are more likely to experience elevated levels of violence and instability. Its central argument is that when demographic expansion outpaces the capacity of the economy and state institutions to absorb and productively engage growing populations, structural pressures emerge in the form of unemployment, social exclusion, and intensified competition over limited resources. These conditions increase the likelihood of deviant behaviour, criminal activity, and various forms of violence.

The core tenets of Youth Bulge Theory emphasise the role of age structure in shaping social outcomes. Rapid population growth increases the size of economically active cohorts, particularly youth populations, thereby intensifying pressure on labour markets (Urdal, 2006; Cincotta et al., 2012). Where economic systems fail to generate sufficient employment opportunities, this pressure may lead to frustration, relative deprivation, and social marginalisation (Heinsohn, 2003; Urdal, 2006). The theory further posits that weak institutional capacity limits the ability of the state to effectively manage these demographic pressures, thereby increasing the likelihood of violence and instability (Urdal, 2006; Cincotta et al., 2012). In this sense, demographic expansion is conceptualised as a structural stressor influencing social order and security outcomes.

While population growth provides the broader demographic context, Youth Bulge Theory is most directly concerned with the concentration of youth populations within the overall population structure. Sustained demographic expansion increases the number of individuals within youth cohorts, particularly those transitioning into the labour market, thereby intensifying competition for limited economic and social opportunities. These pressures are especially pronounced in developing contexts where economic growth and institutional capacity do not keep pace with demographic change. Under such conditions, youth populations become a critical channel through which demographic pressures translate into violent outcomes.

The theory also highlights important gender dimensions within youth populations. Young males are generally more strongly associated with violent behaviour due to higher exposure to unemployment, social exclusion, and risk-taking tendencies, as well as greater involvement in informal and illicit activities. In contrast, female youth populations are less directly associated with violent offending and are more often linked to different social and economic vulnerabilities. This distinction suggests that demographic pressures may have uneven effects across gender groups, with male youth cohorts constituting the primary demographic group associated with violent crime.

In the context of Nigeria, where population growth has been rapid and accompanied by a pronounced youth-dominated demographic structure, the assumptions of Youth Bulge Theory are particularly relevant. The large and expanding youth population, combined with high levels of unemployment and limited economic opportunities, creates conditions consistent with the theoretical expectation of increased violence. These conditions are further intensified by urbanisation and institutional constraints, which limit the capacity to absorb growing populations into productive economic activities.

In this study, Youth Bulge Theory is employed as the conceptual framework to interpret population dynamics as a form of demographic pressure influencing violent crime. Specifically, the study operationalises this framework by disaggregating population growth into general population growth, youth population growth, male youth population growth, and female youth population growth. This approach allows for a more precise assessment of whether demographic pressures operate uniformly across the population or whether specific cohorts, particularly male youth, exert stronger effects on violent crime.

4. Methodology

This study adopts a quantitative research design using a time-series approach to examine the relationship between population dynamics and violent crime in Nigeria over the period 2000–2023. The time-series design is appropriate as it allows for the analysis of trends and relationships between variables across time, thereby enabling the identification of patterns and associations between demographic changes and violent crime. The study relies on secondary data obtained from credible and internationally recognised sources. Data on violent crime, measured as total violent deaths, are sourced from the Global Violent Deaths database, while population-related data, including total population, youth population, male youth population, and female youth population, are obtained from the World Bank database.

The dependent variable in this study is violent crime, operationalised as the total number of violent deaths recorded annually. The independent variables consist of four demographic measures. Total population is measured as the annual population size, while youth population is defined as individuals aged 15–24 years, consistent with internationally accepted definitions. Male youth population is measured as the male population within the 15–24 age group, and female youth population is measured as the female population within the same age bracket. This operationalisation allows for a disaggregated analysis of demographic effects, enabling the study to distinguish between general population growth and specific population cohorts.

To examine the relationship between population dynamics and violent crime, the study estimates four separate regression models. The first model evaluates the effect of total population on violent crime, the second examines the effect of youth population, the third assesses the effect of male youth population, and the fourth evaluates the effect of female youth population. The use of separate models is necessary to minimise multicollinearity among the population variables and to allow for direct comparison of their respective effects on violent crime. In each model, violent crime is specified as a function of the relevant population variable, with the coefficient capturing the direction and magnitude of the relationship.

Data analysis is conducted using the IBM SPSS Statistics software package. The analysis begins with descriptive statistics, including mean, minimum, maximum, and standard deviation, to provide an overview of the distribution and central tendencies of the variables. This is followed by trend analysis using line graphs to examine patterns of change in violent crime and population variables over time, allowing for visual comparison of their trajectories. Pearson correlation analysis is then employed to assess the strength and direction of the relationships between violent crime and each of the population variables. Finally, simple linear regression analysis is conducted for each of the four models to estimate the effect of population dynamics on violent crime. The regression results are interpreted based on the direction and magnitude of the coefficients, the level of statistical significance, and the explanatory power of the models. The comparative analysis of the four models enables the study to determine whether demographic effects differ across population categories, particularly whether youth and male youth populations exert stronger influences on violent crime relative to general population measures, and whether female youth population exhibits a weaker or statistically insignificant relationship with violent crime.

5. Results and Analysis

5.1 Descriptive Statistics

Descriptive statistics were computed to summarise the key characteristics of the study variables over the period 2000–2023. Table 1 presents the descriptive statistics for all variables included in the study. As shown in Table 1, violent crime measured in absolute levels (Violence_Deaths) records a mean value of 15,548.40 deaths, with a minimum of 13,460.79 and a maximum of 18,207.09. The relatively high standard deviation (SD = 1,491.77) indicates considerable variation in the total number of violent deaths across the study period. This suggests that the scale of violence has fluctuated significantly over time, reflecting changing security conditions.

Table 1: Descriptive Statistics of Study Variables (2000–2023)

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Violence_Deaths	24	13460.7863	18207.0948	15548.3974	1491.76537
Population	24	126382494	227882945	175021100.9	31881279.25
Youth_Female	24	18.58	20.17	19.1881	0.51187
Youth_Male	24	18.93	20.47	19.5096	0.50090
Youth_Total	24	18.76	20.32	19.3489	0.50632

Population shows substantial growth over the study period, with a mean of approximately 175,021,100.90 and a wide range between 126,382,494 and 227,882,945. The large standard deviation (SD = 31,881,279.25) reflects rapid demographic expansion, which is a critical factor in understanding the scale of change in Nigeria’s population over time.

In contrast, the youth population variables exhibit relatively lower variability. Youth_Total records a mean of 19.35%, with values ranging from 18.76% to 20.32% and a standard deviation of 0.51.

Similarly, Male Youth has a mean of 19.51%, with a range between 18.93% and 20.47% and a standard deviation of 0.50, while Youth_Female records a mean of 19.19%, with values ranging from 18.58% to 20.17% and a standard deviation of 0.51. The relatively low standard deviations indicate that the proportion of youth within the population has remained comparatively stable over the study period, despite substantial growth in total population.

5.2 Trend Analysis

Trend analysis was conducted to examine the temporal behaviour of violent crime and population dynamics over the period 2000–2023. This provides an initial assessment of whether changes in violent crime correspond with patterns in population growth and its demographic composition over time.

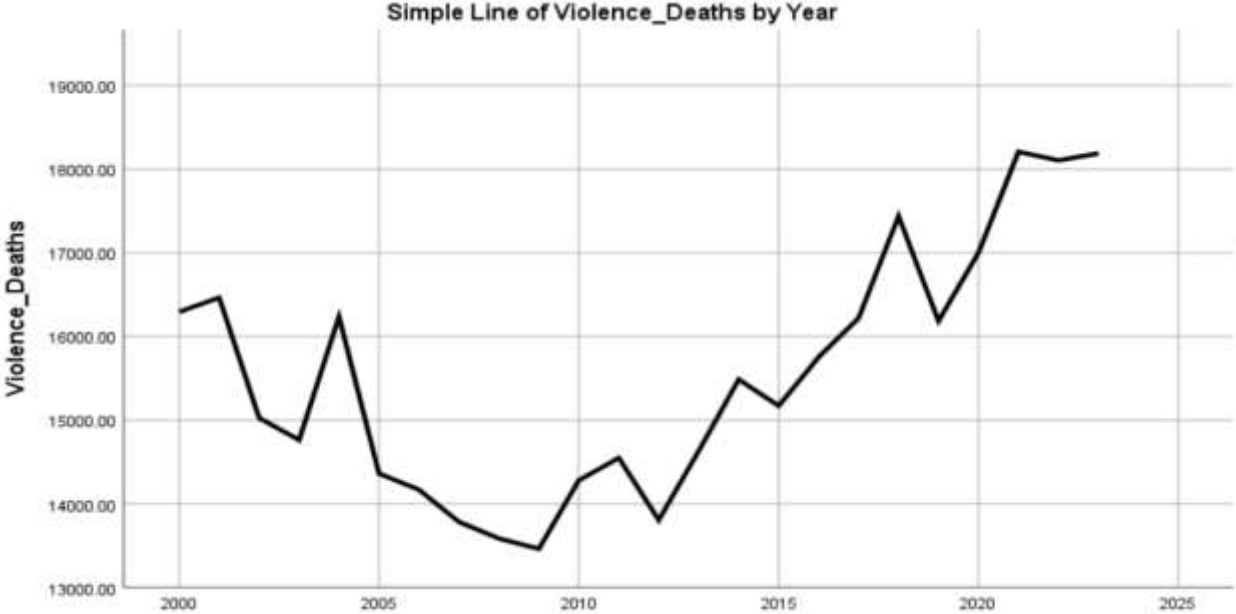


Figure 1: Trend of Violent Crime Measured in Absolute Levels (Violence_Deaths), 2000–2023

Figure 1 presents the annual trend in violent crime measured as total violent deaths between 2000 and 2023. The pattern shows that violent deaths were relatively high at the beginning of the study period, followed by a noticeable decline in the early to late 2000s. The lowest levels are observed around 2008–2009, after which the trend begins to reverse. From approximately 2010 onward, violent deaths exhibit a generally upward trajectory, with some short-term fluctuations. The increase becomes more pronounced in the later years, with the series reaching its highest levels in the early 2020s. This pattern suggests that the overall burden of violent crime has increased over time, particularly in the latter part of the study period.

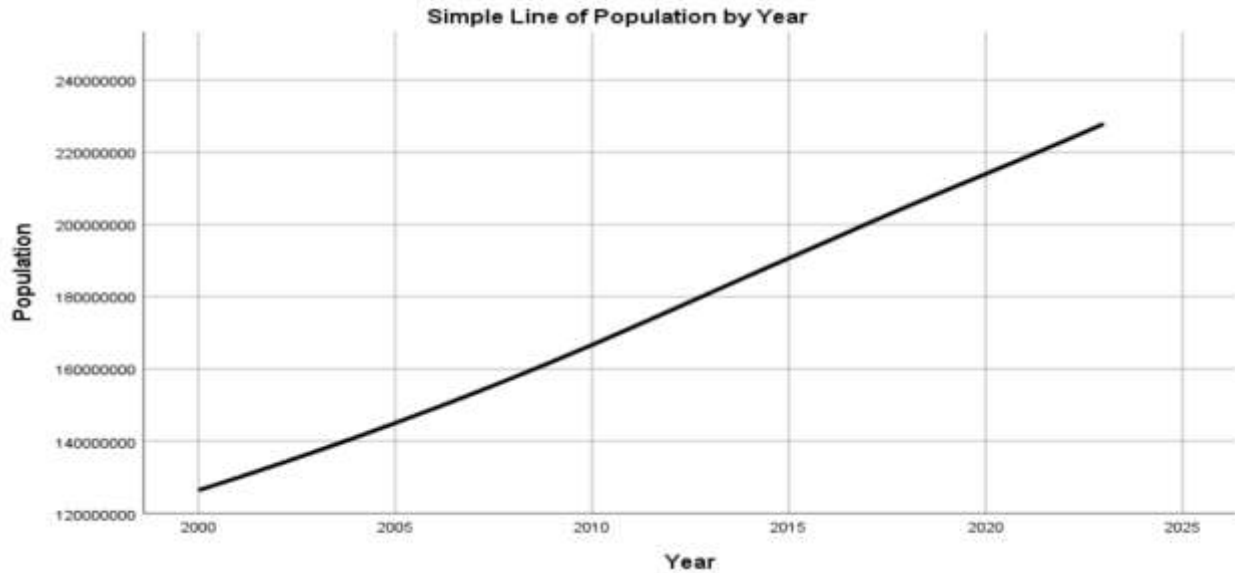


Figure 2: Trend of Population Growth (Population), 2000–2023

Figure 2 presents the trend in total population over the same period. The pattern shows a steady and continuous increase throughout the entire study period, reflecting sustained demographic expansion. Unlike violent crime, the population trend does not exhibit any periods of decline or fluctuation, but rather follows a consistent upward trajectory. This indicates that population growth in Nigeria has been persistent and uninterrupted over time.

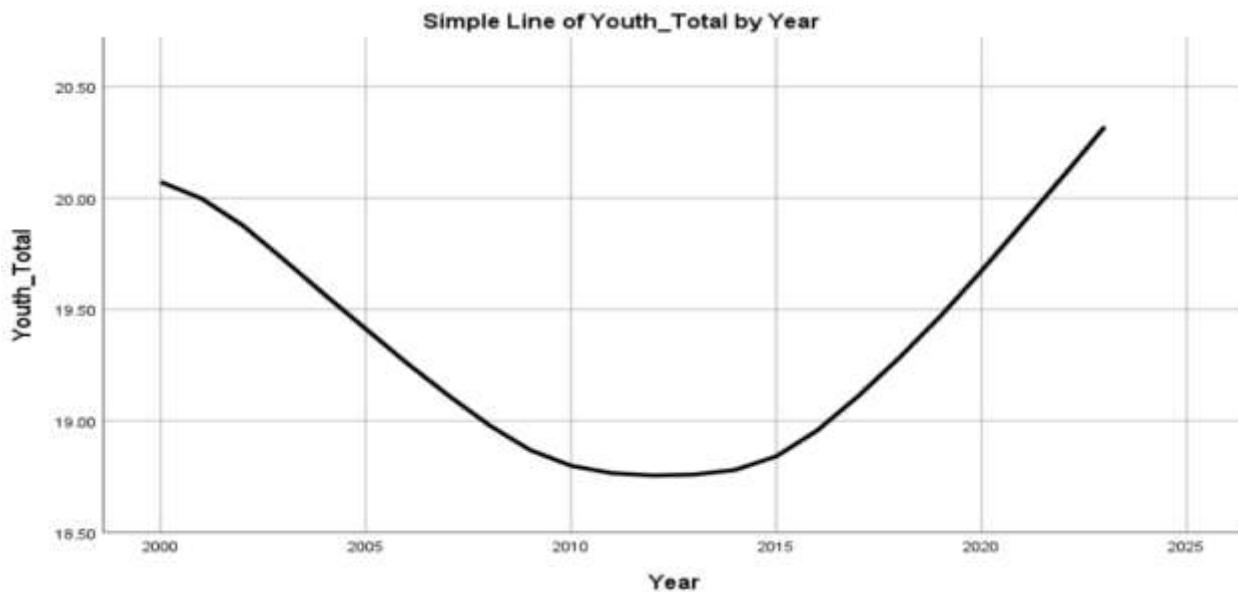


Figure 3: Trend of Youth Population (Youth_Total), 2000–2023

Figure 3 presents the trend in youth population as a proportion of the total population. The pattern shows a gradual decline from the early 2000s until approximately 2011–2012, after which the trend stabilises briefly before increasing steadily towards the end of the study period. Although the fluctuations are relatively small, the trend suggests that the proportion of youth in the population

experienced a slight contraction in the early years, followed by a recovery and gradual increase in recent years.

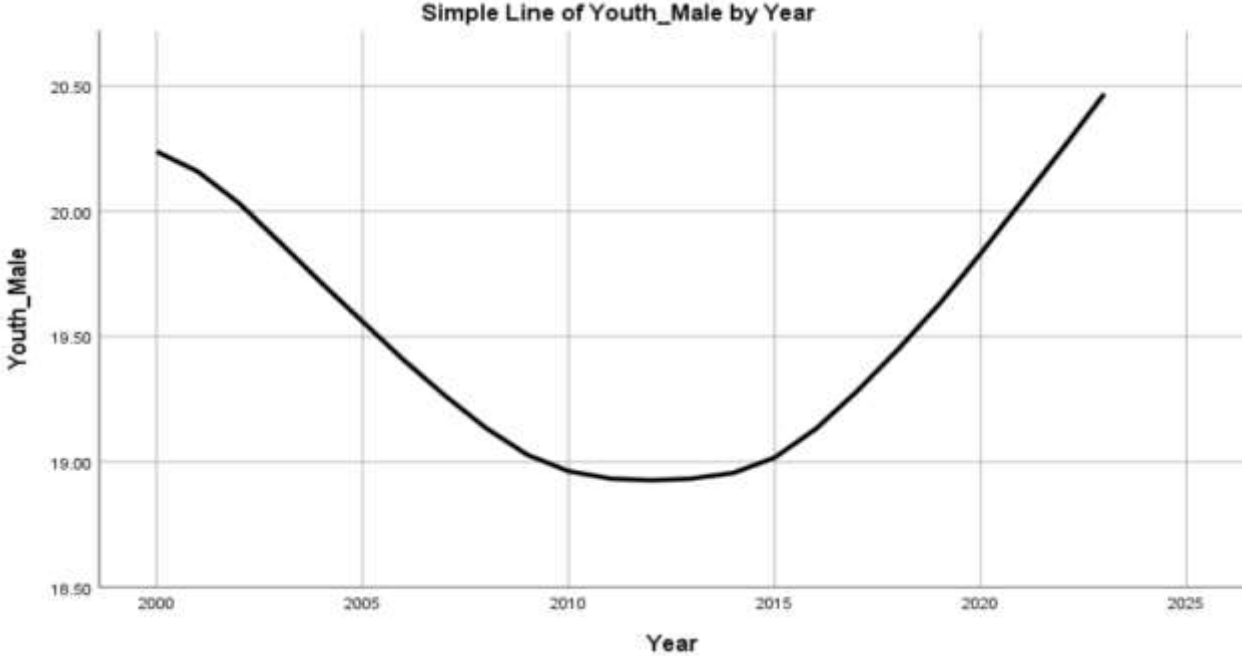


Figure 4: Trend of Male Youth Population (Youth_Male), 2000–2023

Figure 4 shows the trend for male youth population. The pattern closely mirrors that of the total youth population, with a steady decline in the early years, reaching its lowest levels around 2011–2012, followed by a gradual and sustained increase towards the end of the study period. The similarity in pattern indicates that male youth trends are a major component of overall youth population dynamics.

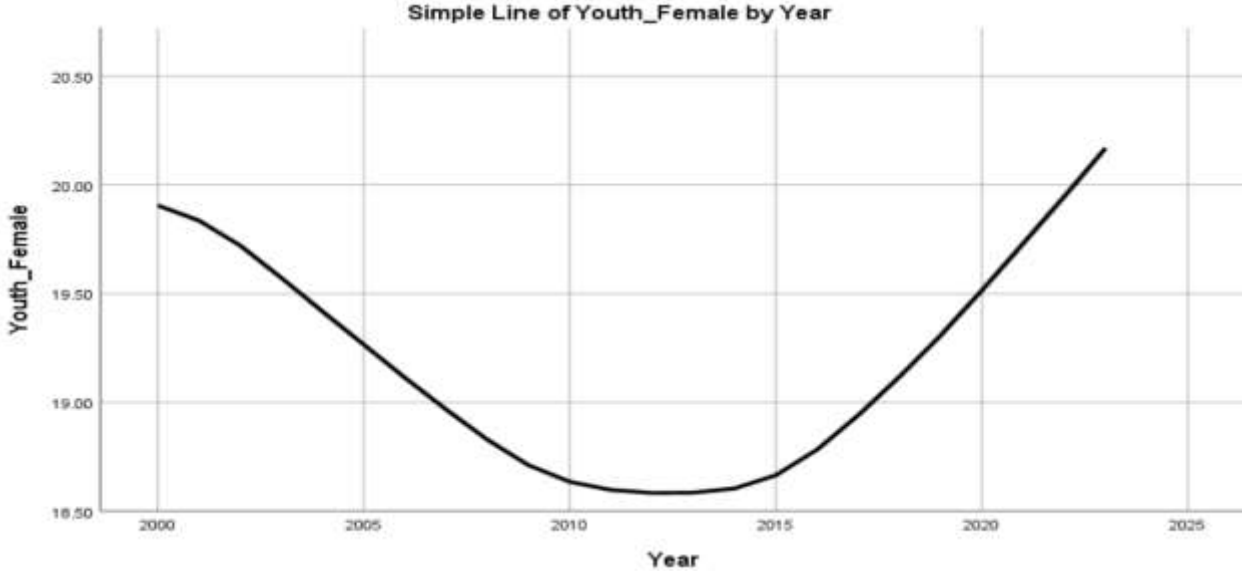


Figure 5: Trend of Female Youth Population (Youth_Female), 2000–2023

Figure 5 presents the trend for female youth population. Similar to male youth, the female youth population exhibits a declining trend in the early years, followed by a gradual increase from around 2012 onward. The pattern is highly consistent with both male youth and total youth trends, indicating a balanced demographic structure within youth cohorts over time.

While total population increases steadily throughout the study period, violent crime exhibits a more fluctuating pattern with a clear upward trend in the later years. In contrast, youth population variables show a U-shaped pattern, characterised by an initial decline followed by a gradual increase. The divergence between the steady growth in population and the fluctuating yet rising trend in violent crime suggests that increases in violent crime are not solely driven by proportional changes in youth population. However, the upward movement in both violent crime and youth-related variables in the later years of the study period indicates a possible association between demographic pressures and violent outcomes. These observations provide preliminary support for further statistical analysis to determine the significance and relative strength of the relationships between population dynamics and violent crime.

5.3 Correlation Analysis

Correlation analysis was conducted to examine the strength and direction of relationships between violent crime and population-related variables. This provides preliminary insight into how the variables are associated before proceeding to regression analysis.

Table 2: Pearson Correlation Matrix

Variable	Violence_Deaths	Population	Youth_Female	Youth_Male	Youth_Total
Violence_Deaths	1				
Population	.600**	1			
Youth_Female	.688**	.022	1		
Youth_Male	.702**	.033	.999**	1	
Youth_Total	.695**	.027	1.000**	1.000**	1

*Note: * $p < .01$

Table 2 presents the Pearson correlation coefficients for the variables included in the study. Violent crime measured in absolute levels (Violence_Deaths) shows a positive and statistically significant relationship with total population ($r = .600$, $p < .01$). This indicates that increases in population size are associated with higher levels of violent deaths, providing preliminary support for the expectation that population growth contributes to violent crime.

Violent crime also exhibits positive and statistically significant relationships with youth population variables. Specifically, Youth_Total ($r = .695$, $p < .01$), Youth_Male ($r = .702$, $p < .01$), and Youth_Female ($r = .688$, $p < .01$) are all positively associated with violent crime. Among these, the relationship between violent crime and male youth population is the strongest, followed closely

by youth total and female youth. This suggests that youth demographic structure is relevant in explaining variations in violent crime and provides preliminary support for the expectation that male youth populations are more strongly associated with violent outcomes.

5.4 Regression Analysis

Regression analysis was conducted to examine the effect of population dynamics on violent crime in Nigeria over the period 2000–2023. Four separate models were estimated to assess the impact of total population, youth population, male youth population, and female youth population on violent crime. This approach allows for a direct comparison of the relative strength and significance of each demographic variable.

Table 3: Regression Results Summary

Model	Predictor	Beta (β)	t-value	Sig. (p-value)	R ²	Adj. R ²
1	Population	.600	3.516	.002	.360	.331
2	Youth_Total	.695	4.534	.000	.483	.460
3	Youth_Male	.702	4.619	.000	.492	.469
4	Youth_Female	.688	4.451	.000	.474	.450

Dependent Variable: Violence_Deaths

Table 3 presents the regression results for the four estimated models. Model 1 examines the effect of total population on violent crime and shows a positive and statistically significant relationship ($\beta = .600$, $p < .01$). This indicates that increases in population size are associated with higher levels of violent crime, providing support for H1.

Model 2 assesses the effect of youth population on violent crime and reveals a positive and statistically significant relationship ($\beta = .695$, $p < .01$). The model explains a larger proportion of variation in violent crime ($R^2 = .483$) compared to the population model, suggesting that youth population provides a stronger explanation of violent crime. This supports H2.

Model 3 evaluates the effect of male youth population on violent crime and shows the strongest positive and statistically significant relationship among all models ($\beta = .702$, $p < .01$). The model also records the highest explanatory power ($R^2 = .492$), indicating that male youth population is the most influential demographic factor in explaining violent crime. This provides strong support for H3.

Model 4 examines the effect of female youth population on violent crime and also indicates a positive and statistically significant relationship ($\beta = .688$, $p < .01$). However, the explanatory power of this model ($R^2 = .474$) is lower than that of the male youth model, suggesting that while female youth population is associated with violent crime, its effect is comparatively weaker. This finding does not support H4, which expected a statistically insignificant relationship.

5.5 Discussion of Findings

The findings of this study demonstrate that population dynamics significantly influence violent crime in Nigeria, although the strength of this influence varies across demographic categories. While general population growth exhibits a positive and statistically significant relationship with violent crime, the results show that disaggregated demographic measures, particularly youth and male youth populations, provide stronger explanatory power. This supports the broader literature which argues that the effects of population growth on violence are not uniform and are better understood when demographic composition is taken into account.

The positive and significant effect of total population on violent crime provides support for the argument that population growth can contribute to increased violence. This finding is consistent with early criminological perspectives, particularly the work of Braithwaite (1975), which suggests that population expansion increases social pressure and opportunities for deviance. It also aligns with the findings of Lee and Jang (2021), who show that reductions in population are associated with declines in violent crime. However, the relatively lower explanatory power of the population model in this study reinforces the argument in more recent literature that population growth alone does not fully explain variations in violence. In particular, the findings support the position of Barton et al. (2024, 2025), who demonstrate that the relationship between population growth and violence is context-dependent and not strictly linear. This suggests that while population growth matters, its explanatory capacity is limited when considered in aggregate form.

Greater explanatory clarity emerges when population is disaggregated into its age structure. The findings show that youth population has a stronger positive and statistically significant effect on violent crime than total population. This result is consistent with the literature which emphasises the importance of age composition in shaping violent outcomes. Juárez et al. (2022) demonstrate that age structure is a key determinant of violent crime, particularly when youth populations are large and face limited economic opportunities. Similarly, González et al. (2025) show that increases in youth population proportions are associated with higher homicide rates, reinforcing the age-crime relationship. The present findings therefore support the argument that youth population growth provides a more direct and theoretically grounded explanation of violent crime than aggregate population growth.

The results further show that male youth population exerts the strongest effect on violent crime among all the variables considered. This finding strongly supports the literature on gendered patterns of violence, which consistently identifies young males as the most violence-prone demographic group. Juárez et al. (2022) highlight the role of male youth cohorts in driving violent outcomes, particularly under conditions of socioeconomic stress. At the individual level, Goodwin et al. (2022) demonstrate that male youths are significantly more likely to engage in violent offending than females, while Yan et al. (2024) show that the predictors of violent crime are more strongly associated with males than females. The stronger explanatory power of male youth population observed in this study is therefore consistent with these findings and reinforces the argument that gender-specific demographic pressures are central to understanding violent crime.

However, the findings depart from existing literature with respect to female youth population. Contrary to expectations, female youth population also exhibits a positive and statistically significant relationship with violent crime. This does not support the hypothesis that female youth population would have an insignificant effect. While the effect remains weaker than that of male youth, its statistical significance suggests that female youth population may play a more relevant role in shaping violent crime than previously assumed. This finding contrasts with studies such as Goodwin et al. (2022) and Yan et al. (2024), which suggest weaker or less direct involvement of female youth in violent offending. A possible explanation is that the present study captures aggregate demographic pressures rather than individual-level behaviour, implying that female youth population may influence violent crime indirectly through broader social and economic dynamics rather than direct participation in violence.

Overall, the pattern of findings provides strong empirical support for Youth Bulge Theory, which posits that large youth populations increase the likelihood of violence, particularly when economic and institutional systems are unable to absorb them. The stronger effects observed for youth and male youth populations are consistent with the theory's emphasis on age structure and gendered vulnerability. At the same time, the significance of female youth population suggests that the effects of demographic pressure may be more complex than traditionally assumed, indicating the need for a more nuanced interpretation of youth-related dynamics within the theory.

7. Conclusion

Violent crime in Nigeria is fundamentally shaped by demographic composition rather than by population size alone. The structure of the population, particularly the concentration of youth cohorts, constitutes the critical factor through which demographic pressures translate into violent outcomes. Within this structure, male youth cohorts represent the most decisive demographic group associated with violent crime, confirming that age and gender-specific dynamics are central to patterns of violence.

Population growth, when considered in aggregate terms, does not provide a sufficient explanation of violent crime. Its relevance is contingent upon the distribution of the population across socially and economically active groups. The concentration of youth populations, especially in contexts characterised by limited economic absorption and institutional constraints, creates conditions under which violence is more likely to emerge and persist.

The theoretical implication is that Youth Bulge Theory remains a valid and powerful framework for understanding violence in demographic contexts, but its application must extend beyond a narrow focus on male youth alone. Demographic pressure operates through broader youth-related dynamics, requiring a more refined and context-sensitive interpretation of the relationship between population structure and violence.

Effective responses to violent crime in Nigeria must prioritise the management of youth demographic pressure, particularly among male youth concentrated in high-risk environments. This requires targeted labour absorption strategies in sectors capable of engaging large numbers of young people with minimal entry barriers, such as agriculture value chains, construction, transport services, and urban informal economies. In rapidly expanding urban centres where

population pressure is most acute, policy interventions must combine employment generation with structured skills acquisition programmes that are directly linked to local economic opportunities.

In addition, security policy must shift from a predominantly reactive approach to a preventive framework that addresses the structural conditions producing large pools of disengaged youth. This involves integrating youth-focused economic interventions into existing security strategies in regions affected by banditry, insurgency, and urban violence. At the subnational level, state governments should prioritise localised youth engagement programmes, particularly in areas with high youth population density, weak institutional presence, and limited access to formal employment.

Furthermore, policy coordination between economic planning and security governance is essential. Population growth projections should be explicitly incorporated into national and state-level development planning, ensuring that infrastructure, education systems, and labour markets expand in line with demographic realities. Without aligning demographic trends with economic and institutional capacity, the persistence of large, under-engaged youth populations will continue to reinforce conditions conducive to violent crime.

Future research must move decisively toward disaggregated and context-specific analyses of demographic effects. National-level aggregates obscure critical variations in population structure and their relationship to violence. Greater analytical emphasis on subnational dynamics, gender differentiation, and the interaction between demographic and socio-economic factors is necessary to advance understanding in this field.

References

- Abimbola, A. E., Araga, A. S., Olalekan, O. C., & Abiodun, A. O. (2023). Poverty and inequality: A study of the socioeconomic cause of conflicts in the Northcentral states of Nigeria. *International Journal of Innovative Research in Social Sciences and Strategic Management Techniques*, 10(1), 276-294.
- Aborisade, R. A. (2022). Women and violent crimes in Nigeria: A theoretical, historical and contemporary overview. *Gender and Behaviour*, 20(2), 19423-19432.
- Adeleye, N., & Jamal, A. (2020). Dynamic analysis of violent crime and income inequality in Africa. *International Journal of Economics, Commerce and Management*, 8(2), 1-25.
- Adisa, W. (2021). Transnational organized crime, terrorist financing and boko haram insurgency in Nigeria. *Journal of Terrorism Studies*, 3(1), 1.
- Agbu, D. A., Musa, H., & Zhema, S. (2020). Insurgency, armed herdsmen and instability in Nigeria: A search for the way forward. *Global Journal of Arts, Humanities and social sciences*, 8(6), 63-81.
- Ajide, F. M. (2021). Impact of economic condition on crime rate in Nigeria. *The Journal of Developing Areas*, 55(1).
- Ameen, A. I. (2021). Securing Credible Elections in Africa through ICT: An Appraisal of Nigeria. *Acta Universitatis Danubius, Relationes Internationales*. Vol. 14, No. 1, pp. 5-19. ISSN: 2065-0272.
- Armed Conflict Location & Event Data Project (ACLED). (2025). *Conflict data and analysis for Nigeria*. Retrieved from <https://acleddata.com>
- Atai, A. J., & Esetang, A. (2024). Insecurity in Nigeria: Forms, effects and remedies. *International Journal of Culture and Society*, 2(1), 38-48.
- Barton, M. S., Anderson, B., Charles, C., & Valasik, M. A. (2025). Population growth and its paradox: An investigation into the correlates of four forms of violence in a rapidly expanding suburb. *Journal of Criminal Justice*, 96, 102343.
- Barton, M. S., Njeh, J. N. W., & LaRose, J. (2024). Is Boomtown Growth Associated with Crime in Suburban Areas?: Examining the Importance of Rapid Population Growth and Neighborhood Change for Crime in Frisco, Texas. *American journal of criminal justice*, 49(4), 508-530.
- Braithwaite, J. (1975). Population growth and crime. *Australian & New Zealand Journal of Criminology*, 8(1), 57-60.
- Ceccato, V., & Carli, L. (2025). Rapid Population Growth (RPG) and Its Consequences—A Systematic Literature Review with a Focus on Crime and Fear of Crime. *Journal of Planning Literature*, 08854122251362757.

- Centre for Democracy and Development West Africa. (2025). *West Africa security tracker mid-year report 2025*. Retrieved from <https://www.cddwestafrica.org/reports/west-africa-security-tracker-mid-year-security-report-2025/>
- Chukwudi, A. S., & Victor, O. (2021). Governance failure and the formation of anti-state organisations: The impact of the amnesty policy on the development of Nigeria's Niger-Delta, Nigeria. *African Journal of Governance and Development*, 10(2), 356-374.
- Cincotta, R., Doces, J., Goldstone, J. A., Kaufmann, E. P., & Toft, M. D. (2012). The age-structural maturity thesis. *Political demography*, 2012, 98-116.
- Eneji, A. G., & Agri, E. M. (2020). Insecurity, conflict and socioeconomic development in Nigeria. *Social Science Journal*, 8, 1-19.
- Eriamiatoe, P. (2025). Conflict and poverty in Nigeria. In *Conflict and Poverty in Africa* (pp. 81-102). Routledge.
- González, J., Iesue, L., Narvey, C., & Hbeilini, G. (2025). Rethinking El Salvador's Homicide Problem: Age, Homicide, and Crime Control. *International Journal of Offender Therapy and Comparative Criminology*, 0306624X251387276.
- Goodwin, J., Brown, S. L., & Skilling, T. A. (2022). Gender differences in the prevalence and predictive validity of protective factors in a sample of justice-involved youth. *Youth violence and juvenile justice*, 20(3), 231-249.
- Heinsohn, G. (2019). *Söhne und weltmacht: Terror im aufstieg und fall der nationen*. Orell Füssli Verlag.
- Institute for Economics & Peace. (2023). *Global peace index 2023*. Retrieved from <https://www.visionofhumanity.org/resources>
- International Labour Organization. (2021). *Global employment trends for youth 2021*. Retrieved from: <https://www.ilo.org/global/research/global-reports/youth/2021>
- Juárez, N. C., Urdal, H., & Vadlamannati, K. C. (2022). The significance of age structure, education, and youth unemployment for explaining subnational variation in violent youth crime in Mexico. *Conflict Management and Peace Science*, 39(1), 49-73.
- Kaldor, M. (2012). *New and old wars: Organized violence in a global era* (3rd ed.). Stanford University Press.
- Metu, A., & Kalu, C. U. (2020). Problems of poverty and inequality in Nigeria. *Structure and Problems of the Nigerian Economy*, Forthcoming.
- Nigeria Watch. (2024). *Annual report on violence in Nigeria 2024*. Retrieved from <https://www.nigeriawatch.org/media/html/Reports/NGA-Watch-Report24.pdf>
- Nogales, R., & Oldiges, C. (2024). Multidimensional poverty and conflict events in Nigeria over time. *International Political Science Review*, 45(1), 53-80.

- Okunlola, O. C., & Okafor, I. G. (2022). Conflict–poverty relationship in Africa: a disaggregated approach. *Journal of Interdisciplinary Economics*, 34(1), 104-129.
- Oladoyin, A. M., Osimen, G. U., Adi, I., & Dada, O. (2024). The Rising Insecurity In Nigeria: Interogating The Linkage Between Poverty And Banditry. *Educ. Adm. Theory Pract.*
- Organisation for Economic Co-operation and Development. (2025a). *States of fragility 2025*. Retrieved from https://www.oecd.org/en/publications/states-of-fragility-2025_c9080496-en.html
- Prince, A. I., Bello, K. O., Nwimo, C. P., & Collins, O. (2023). The intersection of economic inequality and political conflict in Africa: A comprehensive analysis. *International Journal of Social Sciences and Management Research*, 9(6), 69-87.
- Rotolo, T., & Tittle, C. R. (2006). Population size, change, and crime in US cities. *Journal of Quantitative Criminology*, 22(4), 341-367.
- Sheu, H. A., & Ogunsola, B. O. (2024). Corruption, Governance Failure and the Proliferation of Kidnapping in Nigeria. *Journal of Management and Social Sciences*, 13(2).
- Soochang, L., & Cheolyeung, J. (2021). Decomposing the effect of population changes on crime changes. *International Journal of Advanced Culture Technology*, 9(1), 1-6.
- Tollefsen, A. F. (2020). Experienced poverty and local conflict violence. *Conflict Management and Peace Science*, 37(3), 323-349.
- Uduo, T. A., & Ofu, O. A. I. (2025). The Complex Relationships Between Crime, Insecurity and Poverty in Nigeria: Unpacking the State Failure Nexus. *New Ideas Concerning Arts and Social Studies*, 114.
- Ugwuoke, C. O., Ajah, B. O., & Onyejegbu, C. D. (2020). Developing patterns of violent crimes in Nigerian democratic transitions. *Aggression and violent behavior*, 53, 101457.
- Ugwuoke, C. O., Ajah, B. O., Akor, L., Ameh, S. O., Lanshima, C. A., Ngwu, E. C., ... & Nwokedi, M. (2023). Violent crimes and insecurity on Nigerian highways: A tale of travelers' trauma, nightmares and state slumber. *Heliyon*, 9(10).
- UN Women. (2022). *Nigeria country profile*. Retrieved from: <https://www.unwomen.org/en/where-we-are/africa/nigeria>
- United Nations Development Programme. (2023). *Journey to extremism in Africa: Pathways to recruitment and disengagement*. Retrieved from: <https://www.undp.org/publications/journey-extremism-africa>
- United Nations Office on Drugs and Crime. (2019). *Global study on homicide 2019*. Retrieved from: <https://www.unodc.org/unodc/en/data-and-analysis/global-study-on-homicide.html>
- United Nations Office on Drugs and Crime. (2021). *UNODC data portal and crime statistics*. Retrieved from: <https://data.unodc.org/>

- United Nations Office on Drugs and Crime. (2023). *Global study on homicide 2023*. Retrieved from https://www.unodc.org/documents/data-and-analysis/gsh/2023/Global_study_on_homicide_2023_web.pdf
- United Nations Population Fund. (2024). *Country programme document: Nigeria*. Retrieved from <https://nigeria.unfpa.org/en/publications/united-nations-population-fund-country-programme-document-nigeria>
- United Nations. (2022). *World population prospects 2022*. Retrieved from <https://population.un.org/wpp>
- Urdal, H. (2004). The devil in the demographics: the effect of youth bulges on domestic armed conflict, 1950-2000. *Social development papers*, 14, 1-25.
- Urdal, H. (2006). A clash of generations? Youth bulges and political violence. *International studies quarterly*, 50(3), 607-629.
- World Bank. (2011). *World development report 2011: Conflict, security, and development*. Retrieved from: <https://openknowledge.worldbank.org/handle/10986/4389>
- World Bank. (2020). *Unemployment and participation in violence*. Retrieved from: <https://openknowledge.worldbank.org/entities/publication/10350600-3736-55e5-8ce3-5e41e20c90ff>
- World Bank. (2020a). *Fragility, conflict, and violence overview*. Retrieved from <https://www.worldbank.org/en/topic/fragilityconflictviolence>
- World Bank. (2023). *World Development Indicators: Nigeria*. Retrieved from: <https://data.worldbank.org/country/nigeria>
- World Bank. (2024a). *World development indicators: Nigeria*. Retrieved from <https://data.worldbank.org/country/nigeria>
- World Bank. (2024b). *Urban population (% of total population) – Nigeria*. Retrieved from <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=NG>
- Yan, W. J., Zhao, J. H., & Chen, L. (2024). Gender-specific pathways in violent crime: investigating the role of demographic and mental health factors using mixed graphical models and Bayesian networks. *Journal of interpersonal violence*, 39(15-16), 3446-3463.