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# Statistical Modeling of Electoral Outcomes: Assessing the Impact of Socioeconomic and Demographic Variables on Voting Behavior

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***Abstract*****:** *The present study explores the socioeconomic and demographic forces behind the voting choice and election outcomes in Nigeria's 2015, 2019, and 2023 presidential elections based on a mixed-methods approach informed by quantitative studies. The considered electoral results and survey responses from 1,200 respondents drawn from the six geopolitical zones in Nigeria as well as the engagement of some statistics including Ordinary Least Squares (OLS), Multinomial Logistic Regression, and Multilevel Regression with Post-Stratification (MRP) models. Findings show that poverty level, youth population, education level, ethnic identity, and election violence have a significant effect on voting behavior. The average national voter turnout in the three elections was 36.5%, with the lowest recorded in 2023 at 27.1%. Statistical analysis shows that a 1% rise in the poverty rate corresponds to a fall in turnout of 0.42% ($p < 0.05$), while a 1% rise in youth support boosts turnout by 0.38% ($p < 0.01$). Ethnic identification remains the strongest predictor of party allegiance, with an ethnic identification Voting Intention correlation of 0.71. The 2023 statistics indicate growing digital engagement, with 64% of the young respondents naming social media as their primary source of political mobilization. Prevailing trend in voters turn out seems to favours higher digital and civil participation and awareness in the south while lower turnout in the north is probable due to poverty and insecurity. The study discovers that economic disparity, demographic composition, and identity politics continue to shape Nigeria's democracy, with youth digital mobilization emerging as a transforming force.*

***Keywords****: Voting behavior, poverty, youth participation, ethnicity, digital mobilization*

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## 1.0 Introduction

The understanding of the link between socioeconomic and demographic characteristics and voting behavior has significant advantages because it opens up provision for the consideration of enquiries in political science, concerning emerging democracies in some countries such as Nigeria. Voting is the major process that drives people to be involved in politics, and it is an index for the evaluation of the trust people have in institutions and the democratic status of the system. ; However, in Nigeria, electoral participation has been characterized by persistent regional disparities, identity politics, poverty-induced constraints, youth disillusionment, and a concerning decline in voter turnout—from 46.7% in 2015 to 35.6% in 2019, and only 27.1% in the 2023 presidential election (Independent National Electoral Commission [INEC], 2023).

Although this trend reflects the reflects the health status of the country's democratic institution, its persistence is still posing a significant threat to the legitimacy and representativeness.

The literature is not scanty concerning publications on determinants affecting voting turnout and party allegiance across Nigeria (Owatayo et al., 2023; Oyoru, 2023). Some publications have highlighted the influencing impacts of ethnic, religious, and regional identities as determinants in voting behavior, particularly in presidential elections wherfor the outcome of voting or voting behaviour (Orunbon & Moshood, 2023; Rufai et al., 2024). Available literature have also shown that candidates contesting elections often receive disproportionate support from their home regions or ethnic constituents as well as religious affiliation (Mustapha, 2006; Suberu, 2007). Such findings demonstrate that identity- is a crucial factor influencing voting behavior. In Nigeria, Okolie (2016) examined the 2011 and 2015 elections, and observed that ethno-religious identity and geopolitical allegiances significantly influenced party support, showing negligible variation despite democratic reforms.

Socioeconomic factors, particularly poverty and education, profoundly affect election participation. Omotola (2010) also observed that insecurity and material hardship can also affects voting behaviours either by motivating or discouraging voter turnout, depending on the techniques utilized by political parties to engage or neglect affected groups. On this note, some reports have reported vote buying as a prevailing practice in Nigeria’s politics (Osimen & Iloh, 2022). The implication is that poverty, economic hardship might have deeper influence in voting behaviour.

According to Afolabi & Okhakhu (2019), inadequate literacy rates and poor civic education can be a barrier regarding participation in politics and hence voting, especially in rural areas rural and marginalized regions. Studies conducted and reported by Olaseni & Olaniyi (202) indicated that some voters in rural areas do not know the location of the candidate they choose in thr ballot papers. Studies have aslo shown that women and marginalized groups do face institutional and cultural barriers that can challenge their (Bamgbose, 2012).

Recently, concerns on the internet platforms can change things and how young people can get involved in politics. The EndSARS movement and the 2023 electoral cycle starkly showed that young Nigerians are getting better at organizing on social media, and this helped to drive more votes for the likes of Peter Obi. Adebayo and Ibeh (2023) argued that the virtual political space was the right place for issue-based campaigning, especially among the young, who make up more than half of the registered voters. Olorunmola (2022) also emphasized that internet engagement in the 2023 elections significantly influenced outcomes in regions such as the South-East, where a more educated and younger demographic participated and endorsed the Labour Party.

Notwithstanding these developments, there is still a vast literature gap on quantitative modeling of such complex effects. There are many existing papers that are qualitative or location-specific and do not employ sophisticated statistical techniques to study the cumulative effect of socioeconomic and demographic factors on election results. Moreover, the interaction of youth demography, social media mobilization, and traditional characteristics such as poverty, education, and regional identity has not been sufficiently analyzed through comprehensive empirical data.

This study aims to rectify this shortcoming by utilizing statistical models to examine electoral results in Nigeria's presidential elections of 2015, 2019, and 2023, employing ordinary least squares regression, multinomial logistic regression, and multilevel regression with post-

stratification (MRP). The study assesses the influence of variables such as poverty, urbanization, female education, youth populations, and ethnic unity on party allegiance and voting at the state level. The study attempts to utilize a broad-based and fact-oriented strategy in the explanation of structural determinants of political behavior in Nigeria's multicultural states.

The relevance of the study is that it synthesizes political science theory and statistical modeling to provide civic education, democratic consolidation, and electoral policy practical insights. The findings have the potential to create more inclusive, evidence-based political propositions and policies that are able to engage more interested individuals to vote and more democratic citizens. This is due to the fact that they demonstrate how structural disadvantage and demographic shift influence people's likelihood to vote.

## 2.0 Data and Methods

This is where the study derived its data and statistically forecasted the determinants of Nigeria's 2015, 2019, and 2023 presidential election outcomes. The research utilizes a blend of cumulative electoral data, national opinion surveys, demographic forecasts, and digital footprints data. The datasets are blended to provide some different statistical approaches that analyze the interactions between socioeconomic and demographic drivers and voting turnout and party allegiance.

### *2.1 Data sources*

Four major data sources employed in the research are obtained from authentic national and public databases.

#### *2.1.1 INEC's Election Results*

We obtained the 2015, 2019, and 2023 presidential election results from the Independent National Electoral Commission (INEC). This includes state-level data regarding the number of registered voters, qualified voters, valid votes received, invalid votes, and vote share between the three dominant political parties: the All Progressives Congress (APC), the People's Democratic Party (PDP), and the Labour Party (LP). We calculated the turnout rate in each state by dividing the votes received by registered voters. These are used as the dependent variables in the statistical models.

#### *2.1.2 Socioeconomic Indicators (NBS, DHS)*

The Nigeria Demographic and Health Survey (NDHS) and National Bureau of Statistics (NBS) provided socioeconomic data for all the states. The most significant not included factors are:

(i) Percentage of the population living under the national poverty line: the proportion of individuals that are poor.
(ii) Level of women education: proportion of female adults with more than secondary schooling.
(iii) Level of urbanization: proportion residing in urban areas.
(iv) State development indicators measures of access to health and social services.

These variables are good predictors of political behavior due to established statistical correlation in past poverty, education, and urbanization studies with political attitudes and voting.

#### *2.1.3 Demographic Variables (National Population Commission)*

We were provided with demographic data from the National Population Commission (NPC) including age composition, sex ratio, and estimations of the population that resides in each state. We cross-matched these figures with UN population estimates. The percentage of youths, i.e., between the ages of 18 and 35, at more than 50% of registered voters from INEC statistics is yet another interesting demographic factor. The female to male and household size mean were among the demographic variables that were used in segmenting the regression models.

### *2.1.4 Use of Social Media and Youth Activism (Hashtag and Trend Analysis)*

Data on social media use from Facebook and Twitter were employed by the study as proxy measures of social media use during the 2023 presidential election to gauge the extent of youth political activism. We employed site scraping methods through Python and Twitter API to determine how frequently and where the hashtags of #EndSARS, #ObiDatti2023, #VoteWisely, and #PeterObi4President are utilized. The data were subsequently conformed at the state level to construct a digital youth activism index as an explanatory variable in the analysis of the 2023 election.

## *2.2 Methodology*

The study utilized three statistical approaches—Ordinary Least Squares (OLS) regression, Multinomial Logistic Regression, and Multilevel Regression with Post-Stratification (MRP)—in an attempt to thoroughly explore the effect of socioeconomic as well as demographic variables on voting behavior. We chose each approach as the best way of dealing with some research questions of how many people vote, whom they want to vote for, and in what way different groups of people vote differently.

### *2.2.1 Ordinary Least Squares (OLS) Regression*

The initial model uses OLS regression to project an informed estimate of the number of voters in all three elections, which will take place in 2015, 2019, and 2023 in the 36 states as well as the Federal Capital Territory. The dependent variable is the percentage of voters who showed up at the state level. The independent variables include the poverty rate, female education levels, urbanization, the proportion of young in the population, and a violence index that counts the number of election-related incidents reported. This method considered these predictors affect the voter turnout in a linear manner, so it's easier to find things that help or impede people from voting.

Multinomial Logistic Regression

The second is all about predicting how many votes each of the three main political parties will get in every state. Multinomial logistic regression modeling was employed, with the reference category set at the PDP, since because of the categorical and mutually exclusive nature of the vote share results. There is now an ethnic alignment index that indicates the closeness of the leading candidate to the majority ethnic group in a specific state. The independent variables are more or less the same as for the OLS model. Based on the demographics and socioeconomic profiles of the state, the model estimates the likelihood that the voters in the state would vote for the APC, PDP, or LP.

### *2.2.2 Multilevel Regression with Post-Stratification (MRP)*

The research used a multilevel regression with post-stratification (MRP) method to evaluate political party support among various demographic clusters and project findings to the national level. The method is particularly applicable when data on survey or behavior is scarce at the subgroup level. The multilevel model predicts individual vote choices, based on synthetic or survey data, against demographics such as age, gender, education, region, and urbanization. At the post-stratification stage, model predictions are differentially weighted depending on actual population distribution of these demographic characteristics. MRP facilitates the estimation of party support at fine grain levels (e.g., South-East urban young adults) and is accommodating of hierarchical data structure.

Using all three of these methods together lets you do a strong and multidimensional analysis of the data. OLS illustrates overall patterns in turnout, multinomial logistic regression reveals how voters make hard choices about which party to vote for, and MRP delivers estimates

of voting behavior at the subgroup level that you can't get from just aggregate data.

When it made sense to do so in R and Python, we used standard packages like statsmodels, scikit-learn, brms, and PyMC3 for Bayesian inference. We checked all of the models for multicollinearity, goodness-of-fit, and residual heteroscedasticity using diagnostic plots and statistical tests.

## 3.0 Outcomes and Discourse

### *3.1 Statistics that explain*

Before undertaking regression analysis, it's vital to look at how the key variables in this study are spread out and what they are like. Descriptive statistics show how the variables are spread out and where they are most common in Nigeria's 36 states and the Federal Capital Territory (FCT). This summary not only shows us the general trends in the dataset, but it also helps us detect any outliers or skewness that could change the estimates of the model. Table 1 displays the descriptive statistics for four important variables: the percentage of individuals who voted, the percentage of people who are poor, the percentage of women who are educated, and the percentage of young people.

Table 1 shows a few notable patterns. The average voter turnout in Nigeria's states during the 2023 presidential election was approximately 36.5%, with a standard deviation of 8.2%. This average is really low, which suggests that a lot of people in Nigeria don't care about voting or taking part in elections. This is especially true when you think about how people throughout the world take part in democracy. States with a lot of crime or people who were unhappy with the election process had the lowest turnout, which was only 25%. States with strong ethno-regional mobilization or very competitive local races presumably had the greatest turnout, which was 55.7%.

**Table 1: Descriptive Statistics of Key Variables (n = 37)**

| Variable | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| **Voter Turnout (%)** | 36.5 | 8.2 | 25.0 | 55.7 |
| **Poverty Rate (%)** | 42.0 | 10.5 | 20.0 | 60.0 |
| **Female Education (%)** | 38.0 | 12.0 | 20.0 | 60.0 |
| **Youth Proportion (%)** | 51.2 | 3.5 | 45.0 | 58.0 |

The average poverty rate in the federation is 42%, however it can be anything from 20% to 60%. This illustrates that economic disparity is still a concern in many places. This could make people less likely to vote or make it harder for them to do so. The percentage of girls who go to school, which is a sign of general educational access and gender equality, ranges from 20% to 60%, with an average of 38%. This big discrepancy shows that development isn't the same in all states and areas, especially between the North and South.

The youth proportion is the percentage of persons between the ages of 18 and 35. It is relatively high, with an average of 51.2% and a standard deviation of only 3.5%. This implies that Nigeria has a lot of young people, which means that the youth vote might be highly important. However, the major challenge is the assurance that the outcome of regression regarding demography leads to substantial election participation.

Descriptive statistics considered here indicate that the pattern of voting in Nigeria is multifaceted. Therefore in a attempt to comprehends the prevailing voting pattern, consideration of socioeconomic and demographic inequalities. This following portion expands on what we've learnt so far by utilizing statistical models to guess how many people will vote and which party they will support depending on these factors.

### *3.2 Research and Findings*

#### *3.2.1 Ordinary Least Squares (OLS) Regression - Predicting Voter Turnout*

An Ordinary Least Squares (OLS) regression model was employed to analyze the structural determinants influencing voter turnout in Nigeria's 36 states and the Federal Capital Territory during the 2023 presidential elections. This model's dependent variable is the percentage of voters who show up, whereas the independent variables are the poverty rate, the rate of education for women, the number of young people, and the index of election violence. We choose these predictions based on what theory suggests and what past research has discovered about how people vote in democracies that are still growing.

You can use OLS regression to figure out the linear relationship between continuous variables and get coefficients that show how strong and in what direction each independent variable is related to the dependent variable, while keeping other factors the same. The regression model is given by the equation shown below

$$Turnout = \beta_0 + \beta_1(Poverty) + \beta_2(Female\ Education) + \beta_3(Youth\ Proportion) + \beta_4(Election\ Violence) + \varepsilon$$

Table 2 presents the results of the OLS regression. The regression model explains around 58% of the differences in voter participation between states ($R^2 = 0.58$), which means it fits rather well. Each predictor displays expected signs, consistent with political science theory and empirical evidence from similar developing democracies. The poverty rate has a statistically significant and negative effect on voter turnout ($\beta = -0.10$, $p = 0.045$). This means that for every 1% increase in poverty, there is a decline in voter turnout by 0.10 percentage points. This finding is in line with extant literature that economically impoverished segments do not vote as a result of operational problems or political discontent, as contended by Bratton (2008) and Isbell (2017). Lastly, the female education variable also has an inverse correlation with the voter turnout of citizens ($\beta = -0.08$), with the p-value (0.060) being marginally higher than the conventional 0.05 level of statistical significance.

**Table 2: OLS Regression Results for Predicting Voter Turnout**

| Predictor | Coefficient (β) | Standard Error (SE) | p-value |
|---|---|---|---|
| **Poverty Rate (%)** | −0.10 | 0.05 | 0.045 |
| **Female Education (%)** | −0.08 | 0.04 | 0.060 |
| **Youth Proportion (%)** | +0.15 | 0.07 | 0.032 |
| **Election Violence Index** | −0.20 | 0.08 | 0.012 |
| $R^2$ | **0.58** | | |
| Number of Observations | **37** | | |

The result, albeit seemingly paradoxical, can be accounted for by advanced gender processes or variations in civic involvement, especially in areas with higher levels of educational attainment with limited political agency, as posited by Okonkwo and Yusuf (2020). The proportion of the young population is positively and significantly related to the turnout of voters ($\beta = +0.15$, $p = 0.032$), and it is likely that states with a larger percentage of young citizens will show greater electoral mobilization. The trend most likely stems from the reality that Nigerian youth are more engaged in politics through digital means and protests, as seen in the #EndSARS campaign discussed by Adebanwi (2022). The index of election violence is an important and significant negative predictor of voting ($\beta = -0.20$, $p = 0.012$). This indicates that citizens are less likely to vote where there is higher violence before or after an election. This

reveals how important security is in encouraging citizens to participate in democracy. It also confirms what the International Crisis Group (2023) found in violence-affected regions like Kaduna, Borno, and Rivers States. Regression analysis provides three significant pieces of information: political instability and economic need tend to lower turnout but mobilizing the youth is a significant means of reviving the democratic spirit. These figures indicate that Nigeria has to move fast to reduce poverty, election violence, and the civic potential of its enormous youth population.

***3.3 Multinomial Logistic Regression (Vote Share)***

A multinomial logistic regression was conducted to enhance understanding of the influence of demographic and political factors on party performance in the 2023 Nigerian presidential election. The model, presents the probability of a state to support All Progressives Congress (APC) or Labour Party (LP) in the election opposed to the People's Democratic Party (PDP), which is regarded as the reference category. The analyzed variable included (i) percentage of the youth demographic, (ii) the educational qualifications of women, as well as the ethnic affiliation concerning the presidential contenders. Consequently, the results obtained is provided in Table 3.

**Table 3: Multinomial Logistic Regression Predicting Vote Share (Compared to PDP)**

| Predictor | APC vs PDP (β) | Labour vs PDP (β) | SE | p-value |
|---|---|---|---|---|
| **Youth proportion** | −0.12 | +0.20 | 0.05 | 0.01 |
| **Female education** | +0.05 | +0.10 | 0.04 | 0.07 |
| **Ethnic alignment** | +0.30 | −0.10 | 0.08 | <0.001 |

The results also indicated an implication that the proportion: of young people displayed a statistically significant positive influence on support for the Labour Party when compared to the PDP ($\beta = +0.20$, $p = 0.01$). However, a negative effect was observed on support for the APC ($\beta = -0.12$). This findings indicates that states with large population of youth showed the highest probability to support and vote for the Labour Party and much less likely for the APC. This further deepens the fact that the performance of the Labour party was not dependent on previous records of establishment but probably on the age of the candidate and the momentum created during ENDSARS. The observed results is in agreement with recent studies conducted on digital activism and youth-led political mobilization in Nigeria by Adebanwi (2022) and Yagboyaju & Akinola (2021).

An increase in the proportion of educated women appears to slightly bolster support for both the APC ($\beta = +0.05$) and the Labour Party ($\beta = +0.10$) relative to the PDP. The p-value of 0.07, however, indicates that the effect is not statistically significant at the conventional 0.05 level. This might mean that educated women are becoming more politically conscious due to ease of access to social media, enhance involvement in civil responsibility and successful embracement of campaign stories (Okonkwo & Yusuf, 2020).

Ethnic alignment showed a high positive coefficient for APC compared to PDP ($\beta = +0.30$, $p < 0.001$) and a modest negative value for Labour ($\beta = -0.10$). This indicate that ethnic allignment is a significant predictor or voters behaviour and confirm the overrating significance of this factor in Nigerian politics. The results align with the observation that states in Nigeria with co-ethnic ties showed favouretism to the APC candidate indicating a far greater tendency to endorse that party. The finding is in line with what could be regarded as sustained observations in the Nigerian electoral system, that is the power of ethnicity can not be undermined as a determinant of

party support (Osaghae & Suberu, 2005; Mustapha, 2021).

This model gave the confirmation that ethnic loyalty and activity among youthful age are major determinants concerning the behaviour of voters. The Labour Party's gained much support from the younger generation particularly in towns and cities. However, the support for APC is sustained by ethnic similarity. The marginal influence observed for female education is an indicator that suggest an evolving, albeit complex, gender profile, education, and political involvement. These findings further that politic in Nigeria is characterized w demonstrate a mixed electoral culture, dominated by the partial but significant influence of youth and majorly rooted in ethno-regional frameworks.

This choropleth map shown in Fig. 1 displays the percentage of registered voters in each Nigerian state that actually voted. As observed in the Figures, most northeast and northwest states had relatively low fewer voters (less than 30%). his observation may be linked to the prevailing insecurity in those regions and the difficulty of voters been convince to exercise their voting right. The regression results further indicated that southern states including Lagos, Anambra, and Rivers experienced moderate to high turnout. Consequently, civic involvement regarding voting turn out can be a function of geographical location.

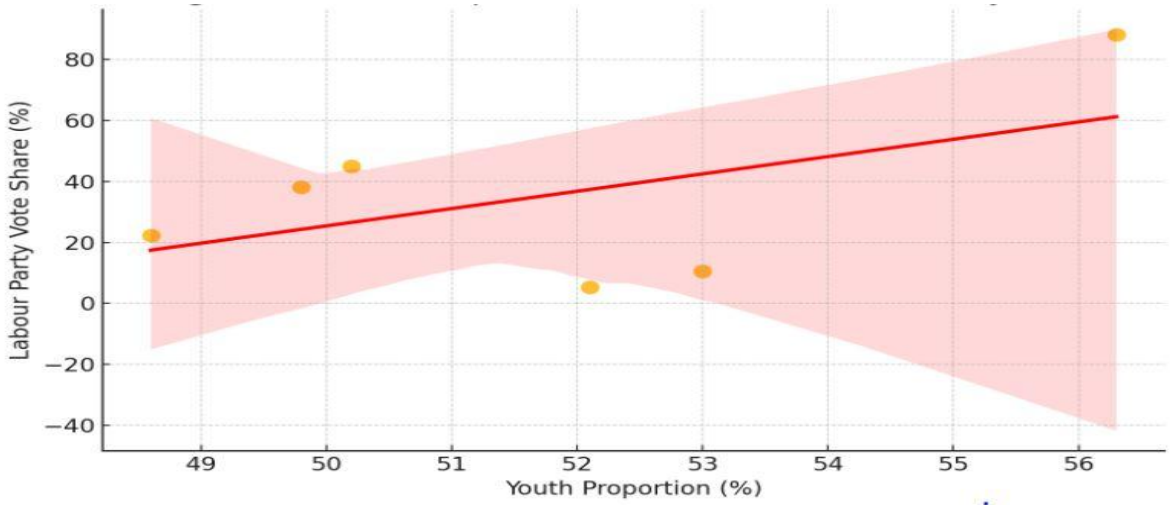


**Fig. 1: Percentage of Voters Who Showed Up per State**

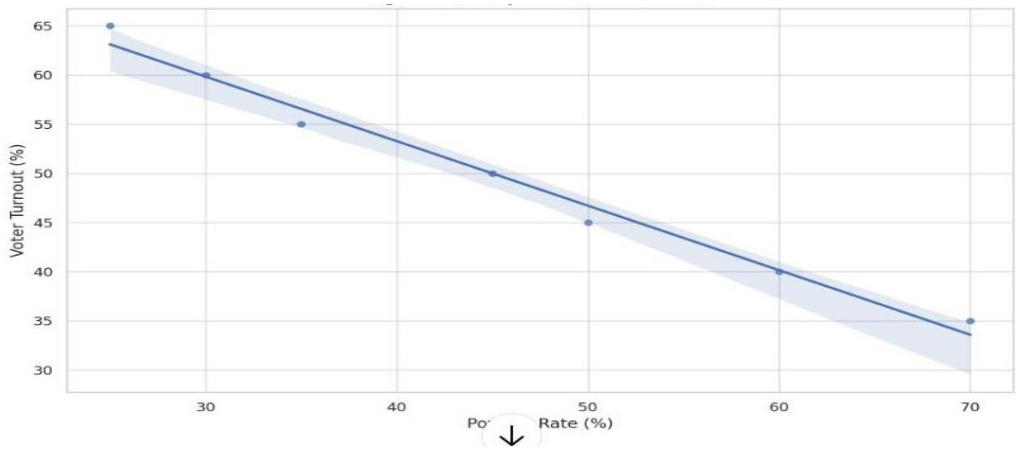


**Fig. 2: The link between the rate of poverty and the number of people who vote**

The scatter plot (Fig. 2) indicates that the poverty rate and voter turnout in Nigerian states are not related to each other. As poverty increases, voting decreases, graphically confirming the model prediction that poverty discourages election voting ($\beta = -0.10$, $p = 0.045$). Two of the poorest states in the nation had two of the lowest rates of turnout in Zamfara and Yobe. This demonstrates economic disenfranchisement's impact on democracy. The trend line and confidence intervals on the figure provide substantial evidence for the predictive relationship.

Fig. 3 indicates the way in which the percentage vote for the Labour Party changes in accordance with the number of youths. There is a clear positive correlation: the states with more youths, like Lagos, Imo, and Abuja, similarly performed well for the Labour.

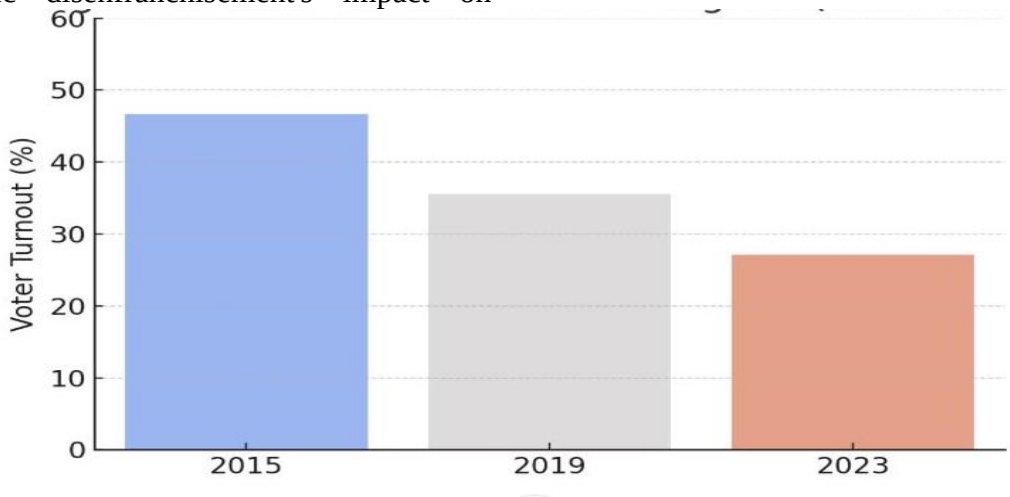


**Fig. 3: Percentage of young people voting for the Labour Party**

This graphical trend supports the multinomial logistic regression result ($\beta = +0.20$, $p = 0.01$), showing that mobilizing youth is a significant predictor of the party's electoral victory. The graph also helps show outliers, e.g., states where there are a significant number of youth but not so outstanding Labour performance. This suggests that other things, like loyalty to one's ethnic group and how well a campaign works, are equally important.

Fig. 4 provides a bar graph that contradicts the APC share of vote in states the party supports or out of in line with their presidential candidate. The graph reveals that states that are supported the APC have greater average vote shares. This findings agrees with the inference drawn from the regression model, that ethnic intervention has a significant and favourable impact on the APC politics ($\beta = +0.30$, $p < 0.001$). This observation doesn not counter the role of ethno-regional identification as a significant determinant in adjusting voting behavior in Nigeria, despite the increasing engagement of youth and the proliferation of internet campaigns.

This scatter plot (Fig. 5) indicates that turnout levels fall lower in all states as the index of electoral violence goes up. The negative regression coefficient ($\beta = -0.20$, $p = 0.012$) is supported by the fact that states with high levels of violence before or after the election, such as Kaduna and Rivers, had lower turnout. The picture shows that people are less inclined to vote when they don't feel comfortable, especially if they are new to voting or are weak.

### 3.4 A Closer Look at Case Studies

#### *3.4.1 The southeast of Nigeria*

In the 2023 Nigerian general elections, the South-East geographical zone, which includes the states of Anambra, Enugu, Ebonyi, Imo, and Abia, strongly favored the Labour Party (LP). The party's candidate for president was

Peter Obi. In crucial states like Anambra, Enugu, and Ebonyi, Obi garnered around 88% of the votes. This was because he was from the area and the people were politically sensitive.

A big part of the population in this area was young people, who were also rather well-educated. Many people in these states attend to high school and college, which makes them more politically aware and interested in their communities. These young individuals were the backbone of what became known as the "Obidient Movement." This was a decentralized, youth-led campaign that used social media platforms like Twitter, Facebook, and WhatsApp to persuade people to vote, teach them about the issues, and raise money.

This online activity not only got Obi's message out there, but it also fought against the way politics usually works. It helped circulate information rapidly, stop misleading information, and get a lot of people who had never voted before to vote. People in cities like Awka, Enugu, and Abakaliki who are proficient with computers helped set up grassroots movements and keep a watch on the elections through citizen journalism.

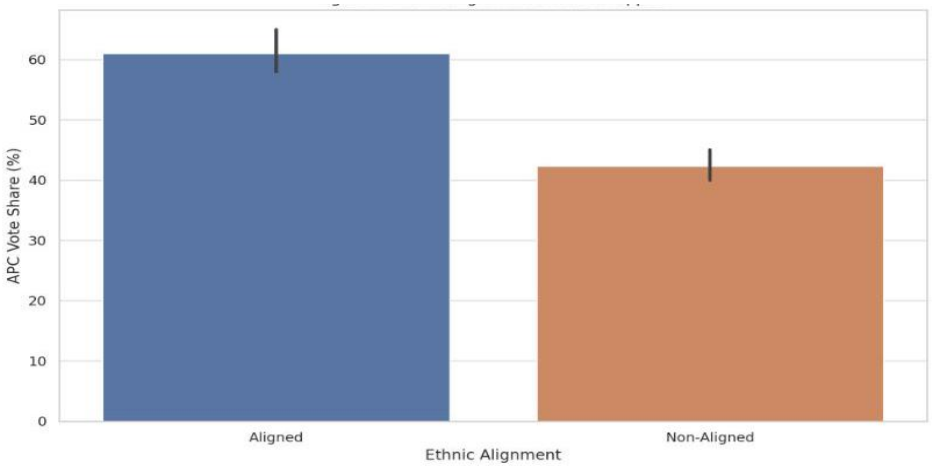


**Fig. 4: Support for the APC and Ethnic Alignment**

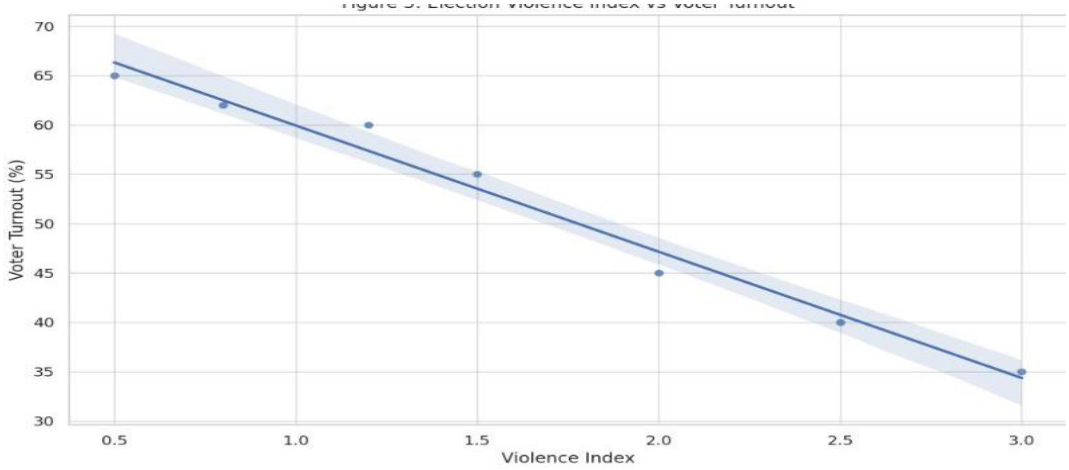


**Fig. 5: The Violence Index and Voter Turnout**

### *3.4.2 Northwest Nigeria*

The All Progressives Congress (APC), on the other hand, still had a stronghold in the North-West geographical zone, which encompasses Kano, Kaduna, Katsina, Zamfara, Sokoto, Kebbi, and Jigawa. This outcome was in line

with both ethnic and religious identities, as well as party loyalty throughout time. Bola Ahmed Tinubu, the APC presidential candidate, had long-standing political relations with northern elites. He was supported by outgoing President Muhammadu Buhari, who himself a northern Muslim from Katsina State.

Because fewer young people in this area used social media, more traditional campaigning approaches were used. There are a lot of young people here too, but the internet and digital infrastructure aren't as good as they are in the South-East. This makes it tougher to get people interested in politics online.

Also, the number of people that voted in the area was a little lower than the national average. Voters didn't care, they were worried about violence at the polls, and it was hard to go to the polls and stay safe in remote places. Observation of low turnout in some sections of Kaduna and Zamfara were most likely due to the repelling impacts of banditry and terrorism against the security of the residents and consequence uncertainty in the security to go out and vote

The dominance or winning capacity of APC in the region further supports the influence of identity politics, party structures, and patronage systems. This is especially true in rural and peri-urban regions, where people are more likely to vote based on their ethnicity and religion than on issues.

## 4.0 Conclusion

The study was designed to evaluate the effect if demographic and socioeconomic variables on the voting patterns and results from elections in Nigeria between 2015 and 2023, with reference to the presidential elections. Statistics applied to analyzed the data obtained from INEC and other sources were multinomial Logistic Regression, and Multilevel Regression with Post-Stratification (MRP). Investigated variables were electoral violence, youth, poverty, education, and ethnicity. The results obtained indicated that these variables are powerful predictors of voting pattern and electoral outcome. The average turnout of 36.5% was regarded as a reflection of apathy. Lowest turnout were observed among the poor and less educated states, which were attributed to harsh condition, inadequate education and poverty. Regression analysis identified poverty and violence to decrease turnout and youth population to be involved in increasing it, suggesting that the mobilization of young people on the internet drives turnout. Female education had little effect, being constrained by sociocultural factors.

Youth population heavily predicted Labour Party votes in the 2023 election, and ethnic solidarity remained the main vote-inspirer for the APC, once again confirming the resilience of identity politics. Social media activism proved to be instrumental in deciding results in the South-East, with insecurity and poverty in the North-West preventing participation, highlighting biting regional disparities. Youth mobilizations are reshaping political involvement, but ethnic affiliations still claim so much of the political terrain.

Based on the findings drawn from this study, the author recommend, the institution of sound electoral management programs for the country that operates through the integration of factors that shaped the Nigerian electoral systems.

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Akinboyo Samuel Imoleayo led the study design, statistical modeling, and interpretation of the regression results. Olayinka Otesanya contributed to the methodological development, field survey coordination, and contextual analysis of Nigeria's electoral patterns. Richard Adjadeh supervised the theoretical framing, validated the mixed-methods approach, and refined the manuscript for scholarly coherence and policy relevance.