



ATTITUDE TO AGE AND SOCIO-DEMOGRAPHIC INFORMATION REPORTING: THE UNSEEN CHALLENGES TO SUSTAINABLE DEVELOPMENT GOALS

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ABSTRACT

Article History

Received: 14 March 2019

Revised: 22 April 2019

Accepted: 30 May 2019

Published: 6 August 2019

Keywords

Population census

Participation in population census

Age reporting

Socio-demographic status reporting

Sustainable development goals.

The study investigated the prevailing factors over age reporting and other socio-demographic information during the Nigerian population census. The study was carried out in south eastern Nigeria, using the cross sectional survey method. The sample size was 597 respondents, males and females aged 26 and older. The analysis examined the latent factors that affected the reporting of age and other socio-demographic status of the citizens using descriptive statistics and logistic regression. From the data, the study demonstrated that age reporting can be predicted by educational level ($\beta = .075$, $t = 1.965$, $P < .05$), the means of information about the population census ($\beta = .126$, $t = 3.272$, $P < .05$) and the citizens' understanding of the census as a means of knowing their needs by the government ($\beta = .343$, $t = 8.943$, $P < .05$); similarly, reporting of occupational status can be predicted by educational levels ($\beta = .130$, $t = 3.263$, $P < .05$) and the citizens' understanding of census as a means of knowing their needs by the government ($\beta = .263$, $t = 6.592$, $P < .05$), etc. The study revealed the loopholes that affected the 2015MDG target and set a pace to achieve the post-2015 SDGs. The study has raised a concern for the empirical evaluation of census participation and socio-demographic status reporting.

Contribution/Originality: This study contributes to the existing literature on population studies. It uses new estimation methodology and originates age-reporting studies. It is one of very few studies which have investigated age-reporting. The paper contributes the first logical analysis of age-reporting. Its primary contribution is finding that census data are not absolutely dependable. This study documents age reporting lapses.

1. INTRODUCTION

For decades now, researchers have been concerned about the challenges facing population the census across the globe. Among the challenges are the willingness to participate in the census and offering unbiased information to the enumerators. Focusing on Americans and their attitudes towards the census (Singer *et al.*, 1992) found that the extent of participating in the population census among Americans was affected by what seems to be concerns about privacy and the confidence they have in the census managers over the way the information was managed. Fay *et al.* (1991) after post census interviews taken between 1980 – 1990, indicated that more Americans than were previously assumed, did not participate in the previous the census or return the questionnaires mailed to them due to the concern about invasion of their privacy.

Singer *et al.* (1993) carried out a study to distinguish between the privacy issue and confidentiality in the two major source population data collection in U S such as population census and vital statistics data. In summary, their findings found that as the awareness and knowledge of human rights increased, so did the concern about privacy.

Contrary to the above findings, Singer *et al.* (2011) comparing attitudes towards the population issue among Americans, discovered that more than administrative data (civil registration), a majority of the population sampled (68%) favoured the census as being more precise and dignifying despite any privacy concerns. Korbmacher and Schroeder (2011) in their correlation analysis of socioeconomic factors and consent to census discovered that household income and age were correlated with consent to giving out private information.

Privacy, attitude and community mindedness have been implicated in the extent to which the public are ready to cooperate in giving out information for census purposes (Burton *et al.*, 2011; Bates *et al.*, 2012). According to the findings by Tate *et al.* (2006); Bates and Mulry (2011) demographic identifiers such as residence, age and education, can affect the differences in consent to participation in the census. A study by Kavita (2002) in New Delhi, showed that low knowledge and a less favorable attitude towards population issues can be a hindrance to the census, resulting in poor participation during the census.

In a multi-ethnic context, participation in population census has been found to be related with the perception of groups' opportunities and interest especially, with regard to political delineations and benefits (Martin, 2007; Bates *et al.*, 2009).

In developing nations such as Nigeria, census has been vulnerable to a lot of challenges making it more or less a mere ceremonial exercise rather than an empirically important venture (Amin, 1971; Dai, 1980; Odukamaiya, 2002; Okafor, 2004; Okereka, 2015). After a cross examination of Nigerian census results since independence, using the pattern of results and public reactions after census, evidence has shown that culture, lack of information and ethnic sentiment, greatly affects what people interpret the census to be (Odewumi, 2000; Salaudeen, 2004; Onyekakeyah, 2007).

Many factors were responsible for the failures of the census carried out in Nigeria since the 1914 amalgamation of the Southern and Northern Nigerian protectorates. However, the extent of investigation of the matter by individuals and groups over the years has been subject to discipline, interest and other motivational factors surrounding academic ventures. Among other things, ignorance among the stakeholders in the ministry and parastatals that are charged with the responsibilities of conducting and evaluating population is one of the threats which continue to jeopardize the institution (Adele, 2009). There is much focus on the assumed political and ethnic factors contributing to the census failures in the country even though there are other factors such as perception, attitude and beliefs about the phenomenon which can go a long way in affecting the efforts and results.

Among other things, the Sustainable Development Goals focused on reducing poverty, inequality, etc. however, these phenomena are subject to the openness of the citizens and willingness to offer unbiased socio-demographic information for the proper understanding of their real situation by the policy makers and implementers. Indeed, one of the challenges which have befall the Sustainable Development Goals and continue to threaten the subsequent adjustment of the program, is the unavailability of a reliable socio-demographic information from the citizens since, any policy will only be effective based on accurate understanding of the problem itself. This is partly because of the hypocrisy among the ethnic lenient leaders and mostly due to the issue of trust between the general public and the political class who organize the census (Egharevba, 2017). While the ethnic leaders continue to perpetuate population politics, the colonialists' induced fear of tax and other social responsibilities make the general public see divulging of private information as dangerous and implicating on their own side.

The 2015 and post 2015 Sustainable Development Goals targets 1 to 5 and 8 are all hinged on reliable socio-demographic information. In the absence of reliable socio-demographic information of the citizens, the Sustainable Development Goals targeted for a 2015-time frame has suffered loss and is still in danger with the 2030 framework

as reliable information about socio-economic status of citizens underpins the platform for tangible planning (Mberu and Ezeh, 2017).

Among the developing nations (Nigeria included), economic and social planning are carried out by a rule of thumb, making it difficult, to accurately predict the challenges of the nations as well as empirically informed panacea to the dictated challenges (Ittmann, 2014).

In the case of Nigeria and other developing nations, these form of information is usually viewed with skepticism by the general public especially during the time of census and other social surveys due to the negative foundation laid by the colonial masters and the subsequent political leaders making the problem self-sustaining. Unavoidably, the African nations especially Nigeria needed to grapple with the underlying factors to the uncooperativeness of the citizens during the census in order to lay a foundation for unbiased divulging of socio-demographic information. The lack of indigenous empirical information on the underpinning factors for unreliable census results in Africa especially Nigeria, has led the United Nations Population Fund to rely on the research and recommendations from places like Europe and America in advising the developing nations on census matters (United Nations, 2010) and this has not really made any significant change in a place like Nigeria.

The need for empirical investigation on people's participation in the census and giving out accurate socio-demographic information in Nigeria especially in Imo state cannot be over emphasized. For instance, using the Myers and Whipple index, Okafor (2016) re-analyzed the 2006 population priority table and determined that the Imo state was among the numerous states where there was evidence of errors in age reporting in the 2006 population census data. This implies that at the individual level, participation and willingness to give accurate information have been problematic during the national population census in these states including Imo state.

Beyond the analysis of census results and other documents in Nigeria, as this study has observed, there has not been empirical investigation on the individual participation and attitudes toward population census and socio-demographic information in Nigeria for more comprehensive explanation and interpretation of the problem, especially at the grassroots level.

This study therefore focused on answering the following questions:

- i. What do the people in this area report as their age to the enumerators during the census?
- ii. How do people in this area perceive reporting their appropriate age to the census enumerators during the census?
- iii. How do the people in this area perceive reporting their occupational status to the census enumerators?
- iv. How do people here perceive reporting their proper educational status to the census enumerators?
- v. What factors can likely predict age reporting among the people in this area?
- vi. What factors can likely predict the people's attitude towards reporting their occupational status to the enumerators?
- vii. What are the factors that can likely predict the people's attitude towards reporting their educational status to the enumerators?

1.1. Reliability of Census Data, Research and Development.

Many scholars have narrowed down the empirical evaluation of the realities of census data to socioeconomic development, to the evaluation of some categories of secondary data. As such, Zaruth *et al.* (2012) using the census data, were able to unveil the changes in educational differentials in old age mortality in Finland and Sweden between 1971 – 1975 and 1996 – 2000. The census-linked mortality datasets were retrieved from Statistics Finland and Statistics Sweden for the analysis of trend of changes in life expectancy among the males and females using education and gender as independent variables. According to them, the educational gap in life expectancy at age 65 and the total amount of mortality inequality by education, as reflected by average inter-group difference, increased

in both countries. For males in Finland, there was a gain in life expectancy between 1.9/3.2 years whereas among females it was between 2.0 to 2.3. In Sweden, it was 1.4–2.7 for males and 2.1–3.2 years for females.

Saikia *et al.* (2013) working through the census data and demographic health survey, explained the rural urban differences in infant mortality in India and the socio economic and cultural variables behind the gaps. Such factors included access to maternal care, educational attainment, and cultural orientation about health care and personal hygiene, and the study was heavily dependent on the relative reliability of the socio demographic information from the census data.

The puzzle about the high frequency of divorce among the Lithuanians after the intrusion of capitalism was explained with the aid of population census data by Maslauskaitė *et al.* (2015). The study utilized the 2001 Lithuania population and housing census and the first divorce records from the Lithuanian population register covering the census date (April 2001) and the end of the follow-up (31 December 2003). 41,000 first legal divorces and 3.18 million person-years of married years of exposure were analyzed, alongside the observations of education, employment/unemployment, geographical location, gender and disability-related inactivity. The study found that individual socioeconomic resources had substantial differentiating effects on first divorce risk in Lithuania. The direction and size of these effects vary notably by sex and place of residence.

Having access to the census data, Vallin *et al.* (2005) studied the causes of death, patterns and trends in Russia, dividing the entire region into four clusters (Chemoziom, Russian South, Siberia and European North) and using the 1970, 1979, 1989 and 1994 census data. They were able to trace the changes in mortality rate and its connectivity to alcohol consumption within the Russian provinces.

Poveda (2007) working on the extent and nature of migration in South of Veracruz, Mexico was able to explain the socioeconomic and political determinants of migration both in and out migration, using the census and DHS data from Mexican authorities.

Using the census data from Wales and England, Jdanov *et al.* (2005) estimated the changes in mortality and population in England and Wales over the two world wars [1914–1918 and 1940–1945] with the aid of population census data and vital statistics data. Using the 1963 – 2000 census data, Davis *et al.* (2007) were able to analyze prices, quantities and trends in electricity usage in the US manufacturing sector; while Haltiwanger *et al.* (2014) studied the trend of job variations and cyclical reallocation of workers across large and small-scale employers.

In her publication in 1991, Goldin (1991) used US census data to trace the trends in changes of women employment as a result of World War II in America.

In a longitudinal study based on national census data, Matsumoto *et al.* (2015) explained the distribution of computed tomography scanners (CTS) per 100,000 populations in Japan, finding that, between 2005 and 2011, the number of CT, MRI and PET devices in Japan increased by 47% (8789 to 12945), 19% (5034 to 5990) and 70% (274 to 466) respectively.

The elementary principle for the planning and development of any nation is for the government to have access to reliable and detailed demographic data of the citizens. This can be actualized through census data (Ottong *et al.*, 2010; Eniayejuni and Agoyi, 2011). According to Akingbade (2004); Ezeah *et al.* (2013) infrastructural development may not be achieved in the absence of the knowledge and information about the population of a nation.

2. THEORETICAL FRAMEWORK

For this study, Symbolic interactionism and the Belief Model of Attitude provided the best explanation of the perceptions and attitudes towards the Nigerian the census especially, among the general public in contrast to the politicians. While Symbolic interactionism explains the way the citizens act towards the population census in terms of individual decisions on participating, the Belief Model of Attitude explains the individuals' attitude towards the census as being informed by the already formed perceptions of the census as being unbeneficial to them. Circumstances such as an ad hoc approach to the census by the colonialists (Ittmann, 2014) the fear of prying into

their socioeconomic status by the government (Ekanem, 1972) and cultural factors, have affected the individual attitude towards population census. Indeed, to a large extent the general public never see population census as a genuine activity, which is for the interest of all and some instead prefer to project the opposite of their real socioeconomic status when asked to fill in the census data collection sheet.

The perception of census as a competition about numbers to determine other political cum economic factors within the polity has made the community leaders become the agents of manipulation of population census at the grass root level (Ekanem, 1972). In most censuses conducted in Nigeria, the enumerators have ended up in the house of the community leaders without visiting the houses of the citizens. After receiving mouthwatering gifts, they manufacture and submit fictitious figures to the population authority (Adepoju, 1981; Adele, 2009). In essence, the failure of the Nigerian population census to produce an accurate and reliable result is the function of the belief and attitude of the different segments of the citizenry in line with the interpretation they have given to population census.

3. METHODOLOGY

The study was conducted in Imo State, South Eastern Nigeria and adopted the projection technique using the growth rate of Imo state according to the 2006 census, which was 3.9% (Okafor *et al.*, 2007). According to the projection, the total population of Obowo (the study area) by 2018 was expected to be 163230. In a separate projection of the adult population (20-85+), which was chosen as the study population, the population was expected to be 82371 by 2018. The sample size for this study was statistically determined as 597 using the Taro Yamane statistical formula while depending on the projected population of the area. Among the fifteen communities in the study area, twelve communities were selected by simple random sampling (balloting). Five electoral wards in each community were selected by balloting using the names of the electoral wards within each of the twelve communities. In each of the five electoral wards selected from the communities, five households were selected, using a modified systematic sampling method. Among the selected households, two individuals (male and female), from 26 years and above were selected for the administration of questionnaires, using inclusion criteria of how old they were. Adults from 26 years and above were included for selection because, they were deemed eligible to provide the type of information sought for in the study based on the date of the last population census which was in 2006. A questionnaire guide was the main instrument for data collection. The collected data were analyzed using descriptive statistics and logistic regression statistics depending on the need in different sections of the questionnaire and the research questions raised in the study.

4. PRESENTATION OF FINDINGS

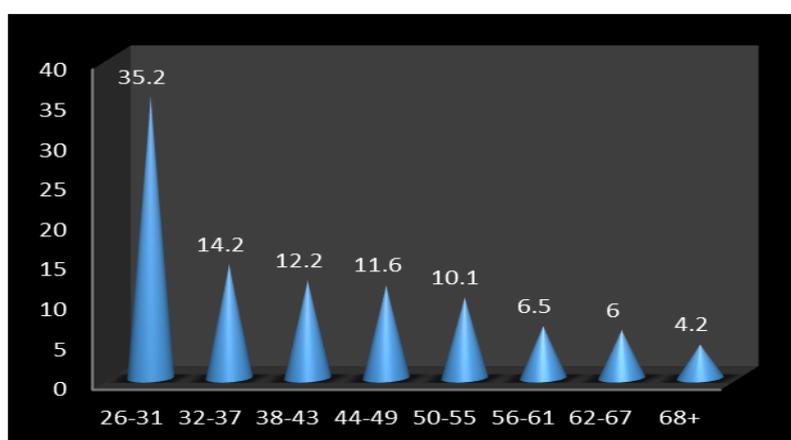


Figure-1. Distribution of the respondents by age.

Source: Field Survey, 2017.

According to Figure 1 above, 35.2% of the respondents fell within the age categories of 26-31 years, 14.2% were aged between 32-37, 12.2 were aged between 38-43 years; 11.6%, 10.1% & 6.5% were aged between 44-49, 50-55 & 56-61 respectively while, 6% and 4.2% were aged between 62-67 and 68+ respectively. The table revealed that majority of the respondents were in the age category of 26-31 years.

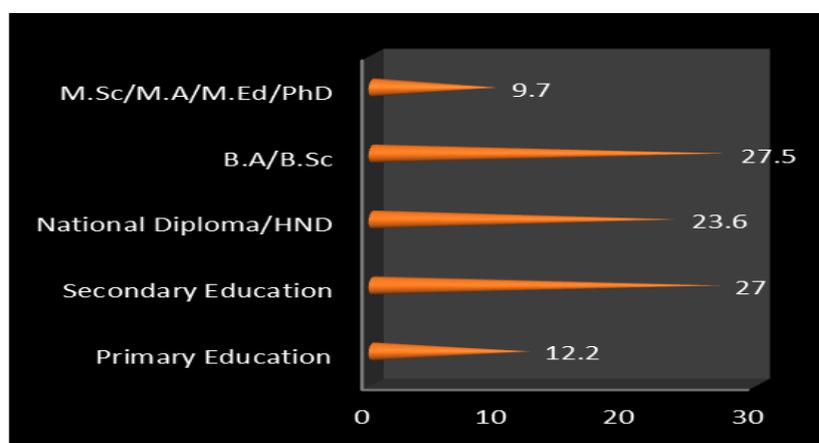


Figure-2. Distribution of respondents by Educational qualifications.

Source: Field Survey, 2017.

Figure 2 above shows that among the respondents sampled, 27.5% possessed Bachelor of Arts (B. A) and B.Sc. (Bachelor of Science) degrees and 23.6% had a National Diploma or a Higher National Diploma Certificate. 27% of the respondents had a Secondary Education certificate, and 12.2% and 9.7% possessed a primary education certificate and M.Sc. and above respectively.

Table-1. Distribution of respondents on the means through which they have heard about census.

Source of Information	Frequency	(%)
Media Enlightenment	123	20.6
Community Town Crier before the census	70	11.7
Enumerators who came during the census	76	12.7
Through Educational Institution	38	6.4
Through people around You	82	13.7
More than one source	208	34.8
Total	597	100.0

Source: Field Survey, 2017.

According to Table 1, 34.8% of the respondents had heard about population census from more than one source; 20% had heard about the census through public media, and 13.7% had heard about the census through people around them. About 12% and 11% had heard about the census through enumerators during the census and community town criers before population census. Only 6.4% of the respondents had heard about the census through an educational institution.

Table-2. Distribution of respondents on the date of age reporting during the census.

Responses.	Frequency	(%)
Your last birthday	386	64.7
Your future birthday	139	23.3
Uncertain date	72	12.1
Total	597	100.0

Source: Field Survey, 2017.

Table 2 shows the respondents' date/age that they reported during the the census. According to the table, 64.7% reported their last birthday while 23.3% and 12.1% respectively, reported their future birthday, and uncertain dates during the the census. The issue of age reporting during the census is a major concern in the area of demographic research, as it affects the quality of available data collected through the census. In such places as Iran, Malaysia, Nigeria, India, Malawi etc., advanced statistical analysis has shown that there is the presence of heavy error in age reporting, affecting the general quality of the data collected during the the census and the possibility of predicting the direction of the population structure and direction in the future time for socio-economic and political planning (Myers, 1940; Palamuleni, 1995; Weeks, 1999; Pardeshi, 2010; Okafor, 2016).

Table-3. Distribution of the respondents on whether they see it as proper to report their appropriate age during the census.

Responses.	Frequency	(%)
Strongly disagree	112	18.8
Disagree	70	11.7
Neither agree nor Disagree	55	9.2
Agree	281	47.1
Strongly agree	79	13.2
Total	597	100.0

Source: Field Survey, 2017.

Table 3 revealed that 47.1% of the respondents agreed that citizens should report their proper age during the census, 13.2% strongly agreed, 11.7% disagreed, 18.4% strongly disagreed, 9.2% neither agreed nor disagreed. According to Weeks (1999) the occupational status of the citizens can only be provided through the census data as well as offering researchers easy access to the overall employment status of the entire citizens as it is only the government that has the authority and capacity to do so. Among other things, demographers are interested in the accuracy of the aspects of the census data which include the occupational status of the citizens.

Table-4. Distribution of respondents on whether they see it as proper to report their occupational status exactly the way it is during census.

Responses.	Frequency	(%)
Strongly Disagree	89	14.9
Disagree	95	15.9
Neither agree nor disagree	60	10.1
Agree	273	45.7
Strongly agree	80	13.4
Total	597	100.0

Source: Field Survey, 2017.

According to Table 4, 45.7% and 13.4% of the respondents agreed and strongly agreed respectively that citizens should report their occupational status exactly the way it is, 10.1% neither agreed nor disagreed, 15.9% disagreed, and 14.9% strongly disagreed.

Table 5 shows that 42.5% of the respondents agreed that the educational qualification of the citizens should be properly reported during the, 12.2% strongly disagreed, 20.7% disagreed, 9.5% neither agreed nor disagreed, 9.2% strongly agreed.

Table-5. Distribution of respondents on whether they see it as proper to report their appropriate educational status during the census.

Responses.	Frequency	(%)
Strongly disagree	124	20.7
Disagree	107	17.9
Neither agree nor disagree	57	9.5
Agree	254	42.5
Strongly agree	55	9.2
Total	597	100.0

Source: Field Survey, 2018.

Table-6. Linear regression on attitude towards age reporting and other variables.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	1.865	.284		6.562	.000	1.307	2.423
Distribution of respondents by sex	.189	.112	.064	1.684	.093	-.031	.409
Distribution of respondents by age	.007	.026	.011	.279	.780	-.044	.059
Distribution of respondents by educational qualification	.094	.048	.075	1.965	.050	.000	.187
Distribution of respondents on the means through which they have heard about census	.094	.029	.126	3.272	.001	.038	.151
Distribution of respondents on whether census is the means through which government may know more about the needs of the citizens	.330	.037	.343	8.943	.000	.257	.402

a. Dependent Variable: Distribution of the respondents on whether it is right to report their proper age during the census

R = .407 (40.7%)

F Value = 23.460

ANOVA Sig. = .000

Note: Result is significant at .05.

Table 6 displayed the linear regression explaining the relationship between age reporting (the dependent variable) and other variables such as sex, age, educational qualifications, means of information about population census and the beliefs about population census among the respondents. The overall power of the model in explaining age reporting was 40.7% (R value), F. value (23.460) while the individual variables (independent) contained in the model contributed at various levels in the overall explanation.

According to the standardized coefficient values (Beta), the beliefs about population census among the respondents contributed the highest value to the model explanatory power (.343), followed by the means of information about population census (.126). According to the t value, there was a positive correlation between all the included variables and age reporting. At the significance level of .05 age reporting during the census could be predicted by the beliefs about population census among the respondents (.000), the means of information about the census among the respondents (.001) and the educational qualifications of the respondents (.050).

Table-7. Linear regression on attitude towards reporting occupational status among the respondents.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	2.469	.288		8.586	.000	1.904	3.033
Distribution of respondents by sex	.083	.113	.029	.730	.466	-.140	.305
Distribution of respondents by age	.018	.027	.028	.691	.490	-.034	.071
Distribution of respondents by educational qualification	.157	.048	.130	3.263	.001	.063	.252
Distribution of respondents on the means through which they have heard about census	.017	.029	.023	.571	.569	-.041	.074
Distribution of respondents on whether census is the means through which government may know more about the needs of the citizens	.246	.037	.263	6.592	.000	.173	.319

a. Dependent Variable: Distribution of respondents on whether it is proper to report their exact occupational status during census.

R = .312 (31.2%)

F Value = 12.781

ANOVA Sig. = .000

Note: Result is significant at .05.

The Table 7 displayed the linear regression explaining the relationship between reporting occupational status (the dependent variable) and other variables such as sex, age, educational qualifications, means of information about the census and the beliefs about the census among the respondents. The overall power of the model in explaining occupational reporting was 31.2% (R value), F. value (12.781) while the individual variables (independent) included in the model contributed at various levels in the overall explanation. According to the standardized coefficient values (Beta), the beliefs about the census among the respondents contributed the highest value to the model explanatory power (.263), followed by educational qualifications of the respondents (.130). According to the t value, there was a positive correlation between all the included variables and reporting of occupational status among the respondents. At the significance level of .05 reporting occupational status during the census can be predicted by the beliefs about the census among the respondents (.000) and the educational qualifications of the respondents (.001).

The Table 8 displayed the linear regression explaining the relationship between reporting the educational qualifications (the dependent variable) and other variables such as sex, age, educational qualifications, means of information about the census and the beliefs about the census among the respondents. The overall power of the model in explaining educational qualification reporting was 31.2% (R value), F. value (8.643), while the individual variables (independent) included in the model contributed at various levels in the overall explanation. According to the standardized coefficient values (Beta), the beliefs about the census among the respondents contributed the highest value to the model explanatory power (.177), followed by the educational qualifications of the respondents (.166). According to the t value, there was a positive correlation between all the included variables and reporting of educational status among the respondents except sex (-.014). At the significance level of .05 reporting educational qualifications during the census could be predicted by the beliefs about the census among the respondents (.000) and the educational qualifications of the respondents (.000).

Table-8. Linear regression on reporting educational qualification during census and other variables.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	2.472	.302		8.194	.000	1.879	3.064
Distribution of respondents by sex	-.002	.119	.000	-.014	.989	-.235	.232
Distribution of respondents by age	.026	.028	.038	.947	.344	-.028	.081
Distribution of respondents by educational qualification	.208	.051	.166	4.103	.000	.108	.307
Distribution of respondents on the means through which they have heard about census	.016	.031	.021	.513	.608	-.044	.076
Distribution of respondents on whether census is the means through which government may know more about the needs of the citizens	.171	.039	.177	4.361	.000	.094	.248

Dependent Variable: Distribution of respondents on whether it is proper to report their exact educational qualifications during the census.

R = .261 (26.1%)

F Value = 8.643

ANOVA Sig. = .000

Note: Result is significant at .05.

5. DISCUSSION OF THE FINDINGS

Socio-demographic information from the citizens is the beginning of empirically informed socio-economic and political policies for sustainable development. This warrants the government and non-governmental agencies interested in sustainable socio-economic policies to give appropriate attention to the means of collecting such information such as the population census and socio-demographic and health surveys. More importantly, understanding the perceptions of these exercises and the factors responsible for the attitudes and perceptions towards the census further assists the government and other policy makers and policy implementers to create an encouraging environment for the citizens to confidently participate in the exercises without bias.

The present study revealed the extent of lapses, which were among the factors that have perpetually affected the quality of census information, that in some cases, has been regarded as the ultimate display of the raw data from the common citizens of the country. Even though 34.8% of the respondents indicated that they have been informed at one time or the other about the population census via more than one source, it is of serious concern that only a far smaller percentage of the respondents (6.4%) indicated that they heard about the census via an educational institution. By implication, the finding shows the lapses in the educational institution as a viable instrument for creating awareness about the census.

At least four out of every ten people among the respondents was within the age bracket of 26-31 while two out of every ten people in the study have had at least a B.A/B.Sc. so this really displayed the distance between the educational institutions and the issue of population and socio-demographic information among the citizens. The extent of educational development within the setting ought to be matched with the extent of the understanding of social phenomena surrounding the members of the society and this can be obtainable when these phenomena are properly introduced and embedded in the educational institutions and curricula. Contrary to the above notion, the people in the study who are mainly youth and exposed to different levels of education seem to be far removed from the realities within society such as information about the population census.

The distance between the educational institution and the issue of population census or rather the knowledge of the importance of socio-demographic information among the population under study was visible in the extent of lapses among the population in reporting their age during population census. About 35% of the people clearly indicated that they reported the wrong age in the last census and perhaps in other census exercises before the 2006 census showing the extent of bias in the census result from the area and indeed other parts of the country. This was as good as saying that in every ten people among this population, roughly four people did not give accurate information about their age in the last census and possibly in the previous census.

Again, the findings here also indicated that the enumerators charged with the responsibilities of brief explanation during data collection may not have taken it seriously, causing more complications in other information that were included in the data collection during the exercise. In the subsequent [Table 5](#), the population under study also gave an indication of the atom of ignorance of the essence of the data from the census. For instance, about 39.7% (at least four out of every ten people under study) of the respondents indicated that they did not perceive giving their correct age as proper.

Having accurate age information from the population is a valuable resource for proper policy initiation and implementation. When the nation is able to gather appropriate information about the number of citizens falling into different age categories, it enables the government to develop both long-term and short-term policy strategies based on accurate projections and the age-specific needs of the population ([Weeks, 1999](#); [Saikia et al., 2013](#)). Although the focus on the age data error analysis was in most cases on number preference and age shifting, the problem displayed here showed ignorance rather than calculated action. This is because the ordinary citizen will not deliberately misinform the government when they are aware of the implications.

Reporting occupational status among the population also posed some challenges as a significant percentage of the respondents (about 40%) indicated that they did not see it as proper to report their appropriate occupational status during the census. This situation may not be far from what arose earlier in the colonial period when the population were afraid of divulging information about their status to escape the taxes imposed by the colonial administration ([Ittmann, 2014](#)). Due to the gap between the government and the population in terms of clarification of this fear and mistrust, the population still see occupational-status report as the tool for government to impose taxes and other responsibilities which are deemed being in the government's benefit rather than in the interest of the population ([Adele, 2009](#); [Okafor, 2015;2016](#)).

Again, there was a deliberate move among the citizens to hide their occupational identity in order to expect more from the government hence the result for unemployed people in the census data is out of place in comparison to the empirically defined unemployment among the population. Of course, if the citizens cannot offer a reliable information about their occupational status for whatever reason it will impede the efforts of the government to establish empirically informed policies that will have profound effects on development. Beyond the issue of the population census, the findings here also indicated that other means of collecting information about employment status of the citizen in this area and beyond may have suffered the same fate.

Similarly, about 46.4% of the respondents indicated that reporting their proper educational status was not perceived as proper (see [Table 7](#)). In some context, education is seen as a way of showing off the affluence among the local population and this may have found its way into the objectives of government activities such as the census. However, it calls for more enlightenment among the population and the enumerators who are employed on an ad hoc basis to curtail the problem. Although Nigeria falls among some African nations that have turned certificates into mere properties of non-relevance, the importance of educational qualifications among the population cannot be over emphasized as this helps both the government and the local population to share understanding in the process of policy development and implementations for general development and the specific developmental needs of the population.

According to the standardized coefficient values (Beta) of the logistic regression that tested age reporting and other variables, the beliefs about the census among the respondents contributed the highest value to the model explanatory power (.343), followed by the means of information about the census (.126). This was the indication that the trust between the government and the citizens which was displayed in their beliefs about the use of the population census information, still played a big role in determining the possibility of the local population cooperating with the government in giving out confidential information. Nevertheless, the ignorance of the importance of the population census could have played a role in the mistrust as the citizens in ignorance tended to suspect certain government activities even without proper knowledge of them.

According to the t value of the model, there was a positive correlation between all the included variables and age reporting. At the significance level of .05 age reporting during the census could be predicted by the beliefs about the census among the respondents (.000), the means of information about census among the respondents (.001) and the educational qualifications of the respondents (.050). Similar results were obtained in the models explaining occupational reporting and educational qualification reporting. These indeed were in agreement with the findings of similar studies in America and Europe where empirical evidence from research have aided the improvement of the census (see (Burton *et al.*, 2011; Korbmacher and Schroeder, 2011; Bates *et al.*, 2012)).

The findings here clearly indicated the factors that will help Nigeria as a nation to correct the abnormalities that have overwhelmed the Nigerian census data for quite a long time now. America and Europe were once faced with the challenge but today have overcome it. Nigeria can similarly conquer the same challenge by considering the policies that will put the major factors here into consideration in the public institutions concerned

6. CONCLUSION

The population census is one of the basic means for obtaining information pertaining to the socio-economic status of the members of the society and by implication, is a bed rock of socio-economic and political development planning. For the agenda of the Sustainable Development Goals to be actualized, especially in the items 1 to 5 and 8 of the United Nations Sustainable Development Goals program (2015 and post 2015), reliable socio-demographic information of the citizens must be available hence, the Sustainable Development Goals in Nigeria technically missed the target in 2015.

The program faced hitches partially due to the sketchy nature of the Nigerian population information founded on the mistrust between the citizens and the government. This has even made the government initiate policies that have little or no impact on development in the nation especially in the case of the Sustainable Development Goals, which has forced most African nations to be applying environmentally unsuited strategies imported from Europe and America. The present study has specifically traced the public perceptions of giving out socio-demographic information during the census and has found the genesis of the loopholes in age reporting, occupational reporting and reporting of educational qualifications among the population. Again, using the regression model, the study has established the major factors directly in connection with public perceptions on age reporting, occupational reporting and reporting of educational qualifications among the population.

With the present findings of the study, the following recommendations are made for the government of Nigeria and other organizations that are interested in securing accurate data for groundbreaking policies and policy implementations in Nigeria and other developing nations:

There is a need to revisit the primary and post primary school curricular in the Nigerian educational system to incorporate the knowledge about demographic information to reverse the current mistrust about socio-demographic information which the colonial agents introduced into the system. This can be made possible via the recently introduced civic education and the social studies curriculum.

The ad hoc approach to the census which the colonial agents left behind is still overwhelming the institution charged with this responsibility. The government needs to carefully redesign the method, time and activities

surrounding the institution because the current structure and approach was the Babangida era strategy which has outlived its usefulness and is now causing the nation more wasted time and resources instead of the desired results based on the current dispensation.

There is a need for timely and uniformity of information across the public media, clarification of the issue of population and demographic information on regular basis among the citizens. The ad hoc town crier information to the rural dwellers gives opportunity for agents of falsehood who are closer to the ordinary citizens compared to the enlightened government agents. The agents of falsehood are the individuals and groups who present the issue of population census and demographic information in a more derogatory manner to the public. These elements can be cut out if the government and the institution charged with the responsibility maintained a regular enlightenment program via the available public media.

The enumerators who are the last means of contact with the citizens need to be properly trained for proper communication and eliciting of information from the citizens. The ad hoc approach to the training of the enumerators is one of the strongest problems to the success of the census. This is because when the data collectors fail to collect the appropriate information the entire result is bound to be in doubt. Timely training and motivation of these workers during the census will help to reduce to the barest minimum, the problem of unreliable census data.

Funding: This study received no specific financial support.

Competing Interests: The authors declare that they have no competing interests.

Acknowledgement: Both authors contributed equally to the conception and design of the study.

REFERENCES

- Adele, B.J., 2009. Falsification of population census data in a heterogeneous Nigerian state: The fourth republic example. *African Journal of Political Science and International Relations*, 3(8): 311-319.
- Adepoju, A., 1981. Military rule and population issues in Nigeria. *African Affairs*, 80(318): 29-47. Available at: <https://doi.org/10.1093/oxfordjournals.afraf.a097299>.
- Akingbade, A., 2004. Geospatial data infrastructure for Nigeria: Foundation for further development. *GIM International Magazine*, 9(18): 12-15.
- Amin, S., 1971. Under populated Africa. Paper Presented at the African Population Conference, Accra.
- Bates, N., F. Conrey, R. Zuwallack, D. Billia, V. Harris, L. Jacobsen and T. White, 2009. Messaging to America: Census Barriers, attitudes and motivators survey results. 2010 Census Integrated Communication Research Memorandum Series: No. 10. U.S. Census Bureau.
- Bates, N. and M.H. Mulry, 2011. Using a geographic segmentation to understand, predict, and plan for census and survey mail nonresponse. *Journal of Official Statistics*, 27(4): 601-619.
- Bates, N., M.J. Wroblewski and J. Pascale, 2012. Public attitudes toward the use of administrative records in the U.S. census: Does question frame matter? Center for Survey Measurement U.S. Census Bureau Washington, D.C. Report Issued: April 25, 2012.
- Burton, J., E. Sala and G. Knies, 2011. Correlates of obtaining informed consent to data linkage: Respondent, interview and interviewer characteristics. Switzerland: A Paper Presented at the Fourth Conference of the European Survey Research Association (ESRA), Lausanne. pp: 18-22.
- Dai, L., 1980. Africa's development and population problem. *Population and Development Review*, 3(6): 688-690.
- Davis, S.J., C. Grim., J. Haltiwanger. and S. Mary, 2007. Prices and quantities of electricity in the U.S. manufacturing sector: A plant-level database and public-release statistics, 1963-2000. New York: U.S. Bureau of Economic Analysis.
- Egharevba, M., 2017. Demographic dynamics, governance and attainment of democratic development: The case of Nigeria. *African Countries. African Population Studies*, 31(2): 3769-3786. Available at: <https://doi.org/10.11564/31-2-1047>.

- Ekanem, I.I., 1972. The 1963 Nigerian census: A critical appraisal. Benin-City: Ethiope Publishing Corporation.
- Eniayejuni, A.T. and M. Agoyi, 2011. A biometrics approach to population census and national identification in Nigeria: A prerequisite for planning and development. *Asian Transactions on Basic and Applied Sciences*, 1(5): 60-67.
- Ezeah, P., C. Iyanda and C. Nwangwu, 2013. Challenges of national population census and sustainable development in Nigeria: A theoretical exposition. *IOSR Journal of Humanities and Social Science*, 18(1): 50-56. Available at: <https://doi.org/10.9790/0837-1815056>.
- Fay, R.E., N. Bates and J. Moore, 1991. Lower mail response in the 1990 Census: A preliminary interpretation. *Proceedings of the Annual Research Conference*, Washington DC: Census Bureau. pp: 3-32.
- Goldin, C.D., 1991. The role of world war II in the rise of women's employment. *The American Economic Review*, 81(4): 741-756.
- Haltiwanger, J., H. Hyatt, E. McEntarfer, L. Sousa and S. Tibbets, 2014. Firm age and size in the longitudinal employer-household dynamics data. Maryland: U.S Census Bureau.
- Ittmann, K., 2014. Population policy, demographic theory and historical demography: Rethinking African population narratives. ASA Meeting 2014.
- Jdanov, D., E. Andreev, D. Jasilionis and V. Shkolnikov, 2005. Estimates of mortality and population changes in England and Wales over the two world wars. *Journal of Demographic Research*, 13(16): 389-414. Available at: <https://doi.org/10.4054/demres.2005.13.16>.
- Kavita, 2002. Knowledge and attitude of school students about population related issues. *Health and Population-Perspectives and Issues*, 25(2): 86-95.
- Korbmacher, J. and M. Schroeder, 2011. Non response when linking survey data with administrative data. A Paper Presented at the Fourth Conference of the European Survey Research Association (ESRA), Lausanne, Switzerland, July 18-22, 2011.
- Martin, E., 2007. Changes in public opinion during the census: Paper presented at the census advisory committee of professional associations October 19, 2000. Research Report Series: Director's Office U.S. Census Bureau Washington, DC 20233.
- Maslauskaitė, A., A. Jasilionienė, D. Jasilionis, V. Stankuniene and V.M. Shkolnikov, 2015. Socio-economic determinants of divorce in Lithuania: Evidence from register-based census-linked data. *Demographic Research*, 33(30): 871-908. Available at: <https://doi.org/10.4054/demres.2015.33.30>.
- Matsumoto, M., S. Koike, S. Kashima and K. Awai, 2015. Geographic distribution of CT, MRI and PET devices in Japan: A longitudinal analysis based on national census data. *PloS One*, 10(5): 1-12. Available at: <https://doi.org/10.1371/journal.pone.0126036>.
- Mberu, B.U. and A.C. Ezech, 2017. The population factor and economic growth and development in Sub-Saharan African Countries. *African Population Studies*, 31(2): 3833-3844.
- Myers, R.J., 1940. Errors and bias in the reporting of ages in census data. *Transaction of the Actuarial Society of America*, 41(2): 395-415.
- Odewumi, S., 2000. Problems of census in Nigeria. In Odumosu T, Atere W and Adewunmi F (Eds), *Social problems and planning studies in Nigeria*. Lagos: Centre for Planning Studies Lagos State University.
- Odukamaiya, A.M., 2002. An appraisal of the 1991 census of the Nigerian population. Project Report, Department of Mathematics, University of Lagos, Lagos, Nigeria.
- Okafor, R., I. Adeleke and A. Oparac, 2007. An appraisal of the conduct and provisional results of the Nigerian population and housing census of 2006. *Proceedings JSMASA- SE, 2007*, pp: 2199-2205.
- Okafor, R.O., 2004. Matters arising from the 1991 census of the Nigerian population. *Proceedings of the Conference of the Nigeria Statistical Association*, Ibadan, Nigeria.
- Okafor, S.O., 2015. Misconception of population census and vital registration in Nigeria: A factor in socio economic and political stagnation. *International Journal of Novel Research in Humanity and Social Sciences*, 3(4): 63-71.

- Okafor, S.O., 2016. 2006 population census and error in age reporting: A critical assessment of the priority table. Conference Paper Presented at the Biennial Conference on Interdisciplinary Studies (BCIS) Organized by The Faculty of Management and Social Sciences Godfrey Okoye University Enugu.
- Okereka, O.P., 2015. Vital civic registration system as a tool for development planning in Nigeria: An examination of the major challenges. *Journal of Culture, Society and Development*, 11(6): 36-42.
- Onyekakeyah, L., 2007. Paradox of population distribution in Nigeria Lagos: Guardian. Publications.
- Ottong, J.G., F. Akpan and S. Ering, 2010. The population situation in cross river state of Nigeria and its implication for socio-economic development: Observations from the 1991 and 2006 censuses. *Journal of Emerging Trends in Educational research and Policy Studies*, 1(1): 36-42.
- Palamuleni, M., 1995. Age misreporting in Malawian censuses and sample surveys: An application of the United Nations joint age and sex score. *South African Journal of Demography*, 5(1): 11-17.
- Pardeshi, G.S., 2010. Age heaping and accuracy of age data collected during a community survey in the Yavatmal district, Maharashtra. *Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine*, 35(3): 391-395. Available at: <https://doi.org/10.4103/0970-0218.69256>.
- Poveda, D.R.A., 2007. Determinants and consequences of internal and international migration: The case of rural populations in the South of Veracruz, Mexico. *Demographic Research*, 16(10): 287-314. Available at: <https://doi.org/10.4054/demres.2007.16.10>.
- Saikia, N., A. Singh, D. Jasilionis and F. Ram, 2013. Explaining the rural-urban gap in infant mortality in India. *Demographic Research*, 29(18): 473-506. Available at: <https://doi.org/10.4054/demres.2013.29.18>.
- Salaudeen, L., 2004. The failed 1991 census. Lagos: New Age.
- Singer, E., N. Bates and J. Van Hoewyk, 2011. Concerns about privacy, trust in government, and willingness to use administrative records to improve the decennial census. *The 2011 Survey Research Methods Section Proceedings of the American Statistical Association*.
- Singer, E., H.-J. Hippler and N. Schwarz, 1992. Confidentiality assurances in surveys: Reassurance or threat? *International Journal of Public Opinion Research*, 4(3): 256-268. Available at: <https://doi.org/10.1093/ijpor/4.3.256>.
- Singer, E., N.A. Mathiowetz and M.P. Couper, 1993. The impact of privacy and confidentiality concerns on survey participation the case of the 1990 US Census. *Public Opinion Quarterly*, 57(4): 465-482. Available at: <https://doi.org/10.1086/269391>.
- Tate, A.R., L. Calderwood, C. Dezateux and H. Joshi, 2006. Mother's consent to linkage of survey data with her child's birth records in a multi-ethnic national cohort study. *International Journal of Epidemiology*, 35(2): 294-298.
- United Nations, 2010. Report on the result of a survey on the census methods by countries in the 2010 census round. New York: Department of Economic and Social Affairs United Nations Secretariat.
- Vallin, J., E.M. Andreev, F. Meslé and V.M. Shkolnikov, 2005. Geographical diversity of cause-of-death patterns and trends in Russia. *Demographic Research*, 12(13): 323-380. Available at: <https://doi.org/10.4054/demres.2005.12.13>.
- Weeks, J.R., 1999. *Population: An introduction to concepts and issues*. 10th Edn., London: Adworth Ltd.
- Zaruth, V., D. Jasilionis and D.A. Jdanov, 2012. Changes in educational differentials in old-age mortality in Finland and Sweden between 1971-1975 and 1996-2000. *Journal of Demographic Research*, 26(19): 489-510.

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