

Women's Socio-Economic Autonomy and Fertility Behaviour: Evidence from the Nigeria Demographic and Health Survey 2018

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Abstract

This study investigated the relationship between women's socio-economic autonomy and fertility behaviour in Nigeria, using data from the 2018 Nigeria Demographic and Health Survey. The impact of changes in women's age, number of children, place of residence, region, educational level, religion, wealth index, occupation status, and family context on fertility behaviour was studied. In 42,000 families, women aged 15 to 49 were chosen. Tables of frequency and percentage distributions were used to examine the characteristics of women. The chi-square results reveal a strong link between women's reproduction desires and their autonomy dimensions. The results of the regression model indicate that women in the poorest households were three times (OR=3.828, CI=3.560-4.117) most likely to desire children more than the ideal number stipulated than those in the richest households. Women who did not have any formal education or training were eight times most likely (OR=8.724, CI=8.147-9.340) to have higher fertility relative to those with higher education or training. By implication, fertility will continue to rise among women with low literacy level. Thus, it was recommended that there is a need for increased empowerment programmes like informal skill acquisition training like fashion designing, computer literacy etc specifically targeted reproductive women. This will to a large extent improve their socio-economic status which will, in turn, give them some form of control over the decision on fertility.

Keywords: Fertility behaviour, Nigeria Demographic and Health Survey, Socio-economic, Wealth index, Women autonomy.

Introduction

Fertility is one of the most important components of population studies. This is because, in every society, one of the basic goals is the reproduction and replenishment of the next generation to continue the life of that society. This function can only be

performed by the fertility component of population dynamics. As a result, fertility is one of the most important countering tools in population dynamics, helping to overcome mortality. A higher-than-desired level of fertility, on the other hand, could result in a population explosion (Bhende & Kanitkar, 2008).

Studies have found that the proximate determinants of fertility are not independent of background variables. Fertility behaviour is affected by socio-economic variables such as educational level, age, economic level/income, place of residence and so on. While biological factors produce similar results for each individual concerning their fertility, the socio-economic factors vary among different societies and produce different results (Eroğlu, *et al.*, 2021).

The fertility level in Nigeria has remained high for decades, with a slight decline in the Total Fertility Rate (TFR) from 6.0 in 1990 to 5.5 in 2013 and what is it in the most recent times (National Population Commission & ICFMacro International, 2014). In recent times, the latest 2018 Nigeria Demographic and Health Survey puts the TFR at 5.3 (National Population Commission & ICFMacro International, 2019). The country ranked seventh on the list of the ten most populous countries in the world (World Population Review, 2019; Mberu & Reed, 2014).

TFR varies significantly among the country's six regions, ranging from 4.3 children per woman in the South-South region to 6.7 in the North-western part of the country region (National Population Commission & ICF Macro International, 2014). With the nation's estimated annual growth rate of 2.60% and more than 40% of the population below 14 years, achieving sustainable fertility decline in the nearest decades thus becomes an overreaching goal (Akinyemi & Isiugo-Abanihe, 2014).

Despite several interventions and population-related policies formulated by successive governments to reduce the country's fertility rate, the aim of the country in reducing the population growth rate to about 2% or lower at the end of 2015, and lowering the total fertility rate every five years at least 0.6 children through the use of child spacing and family planning, is still a long way off (Obiyan et al., 2019). This indicates the necessity for more targeted interventions to achieve lowered fertility in the country to achieve sustainable economic development and by extension meet some of the targets of the Sustainable Development Goals (SDGs) (Sachs, 2012; Starbird, et al., 2016).

For most countries in the world, the changing trajectory of birth rates, married and non-married, ethnic, age, and socio-economic categories have been thoroughly reported. The rise and decrease of various fertility rates correlate and correlations have also been thoroughly documented. Nonetheless, our understanding of the impact of women's autonomy on fertility behaviour, particularly in poor countries, is still lacking (Haque et al., 2021). There has been a lot of debates and counter-debates regarding what women's autonomy is and how it influences fertility behaviour. However, there has been much of criticism.

Reproductive rights are recognized legal rights (World Health Organization [WHO], 2014) because they relate to an individual's reproductive functions. They ensure women's right to both the timing and spacing of their children. Furthermore, it also gives them the freedom to choose their place of birth. Because most patriarchal societies are dominated by men, a woman's fertility is heavily influenced by men, particularly her spouse and his family (Biswas *et al.*, 2017).

Since it has been noted by the WHO (2014) that husbands' control over fertility decisions commonly leads to induced abortion, miscarriage, and foetal death, as well

as pregnancy-related issues, women need to be free to participate in reproductive decisions without fear of discrimination or violence (Biswas et al., 2017). The norms and ideals of a patriarchal structure frequently create a barrier that prevents women from seeking medical help and withholds prenatal and postnatal services without their husbands' express approval (Mullany, 2010; Rahman, *et al.*, 2011).

Scholars have long claimed that a woman's autonomy influences her reproductive decisions. Women with more socio-economic power have a higher probability to make decisions concerning their households and marital affairs such as family planning, birth timing and spacing. It also affords them ample opportunities to learn about the use of reproductive health services, thus given the chance to control their fertility (Jejeebhoy, 1996). It is on this note that McDonald (2000), averred that the transition from high to moderate fertility is associated with significant increases, especially in women's domestic autonomy.

The liberty of a woman or a girl to make independent decisions about her own body and fecundity processes is central to her basic principle of equality and privacy in terms of cognitive and emotional integrity. Equal access to low-cost, high-quality contraception, particularly emergency contraception, is a component of reproductive health equity. Countries with low fertility rates are those which afford women the right to terminate their pregnancies and have access to all methods of contraceptives. Sadly, the WHO has noted that over 225 million women have no access to modern contraceptives (United Nations, 2017).

It might be claimed that each setting's socio-cultural and economic background has a significant influence on women's socio-economic status and the rate to which it influences reproduction. Increased female autonomy, according to Sankar *et al.*, (2001), may encourage women to have more children in pronatalist societies with strong

social and cultural norms. Hence, Obermeyer (1994) opined that gender equity and socio-economic status are dependent on the socio-political settings of the society in which they are debated.

As cited in the above literature, fertility research in Nigeria has spanned decades and has looked into various themes. Some of these themes include adolescent reproductive health, proximate determinants of fertility, fertility trends and differentials etc. The majority of these studies focused on small geographic areas. However, this study looked at women's socio-economic autonomy and fertility behaviour in the context of the 2018 NDHS survey, which was done nationwide.

Material and Methods

Study Design

This is a quantitative research method-based retrospective study. The 2018 Nigerian Demographic and Health Survey (NDHS) dataset is predominantly used in this study. The NDHS women, children, and household data set was re-coded to create this dataset. The DHS surveys, which are primarily supported by the US Agency for International Development, are widely regarded as producing high-quality, nationally representative data.

Study Population

The NDHS interviewed all women aged between 15 to 49 who are regular members of the selected homes or who spent the night before the survey in the selected households. Furthermore, every third family chosen for the female survey also received a male survey at the same time. Individual interviews were available in these families for all men aged 15 to 49 who are regular members of the chosen households or who spent the night before the survey in the chosen households.

Sampling design

The 2018 NDHS sample is a stratified sample chosen in two steps. Each of the 36 states and the Federal Capital Territory was divided into urban and rural areas to accomplish a stratified form of sampling. There were a total of 74 sample layers discovered. A two-stage selection process was used to pick samples in each stratum independently. At each of the lower administrative levels, implicit stratifications were produced by sorting the sampling frame according to administrative order before sample selection and applying a probability proportional to size selection at the first sampling step.

The first stage involved selecting 1,400 Enumeration Areas (EAs) with a probability proportional to EA size. The number of households in an EA determines its size. All of the EAs were subjected to household listing operations, and the resulting lists of homes served as the sampling frame for the second stage's household selection. In the second step of selection, an equal probability systematic sampling was used to choose a fixed number of 30 families in each cluster (Urban = 17,310; Rural = 24,690). Thus, a total sample size of about 42,000 households was obtained as a result of this.

Method of Data Analysis

The secondary dataset extracted from NDHS was analyzed at the univariate, bivariate, and multivariate levels with the aid of the Statistical Package for Social Science (SPSS v20). Univariate analysis was done using basic descriptive variables such as socio-demographic variables, socio-economic variables, and fertility differentials in the country. The descriptive research aided the researcher in describing the basic characteristics of the study population in Nigeria. This was achieved using frequency tables. The bivariate and multivariate variables were analyzed using inferential statistics such as Pearson chi-square and multiple logistic regressions.

Measurement of Variables

The outcome variable in this study is fertility behaviour measured by the variable – high fertility and low fertility. The coefficients were estimated at a 5% level of statistical significance and 95% confidence interval (CI). All estimates were weighted appropriately as stipulated for DHS surveys. Also, fertility behaviour was measured using an ideal number of children for reproductive women age of 15-49.

The principal explanatory variable is “Women’s autonomy”, which is captured by a woman’s involvement in the major decision-making process in the family. Two decision-making variables were included in the DHS questionnaire. Women were asked (i) persons who decide on women’s health, and (ii) persons who decide on how women’s earnings are spent. Other explanatory variables include demographic and socio-economic characteristics of reproductive women – age, number of children, residence, region, educational level, religion, wealth index, occupation status, and family setting.

Results

Socio-Demographic Characteristics of the Respondents

Table 1 presents important socio-demographic characteristics which influence fertility behaviour among women of reproductive age. Results from Table 1 shows that more than one-fifth (21.0%) of the respondents are women whose ages were between 35-39 years, while the population of women aged 15-to 19 years were relatively smaller in number relative to other age groups.

Table 1: Respondents socio-demographic Characteristics

Variable	Variable categories	Frequency	Percentage (%)
Maternal Age	15-19	1461	1.1
	20-24	8543	6.7
	25-29	19007	14.9
	30-34	23618	18.5
	35-39	26740	21.0

	40-44	23696	18.6
	45-49	24480	19.2
Number of children	Ideal	21323	16.7
	More than ideal	106222	83.3
Residence	Urban	44111	34.6
	Rural	83434	65.4
Region	North-Central	21656	17.0
	North-East	26293	20.6
	North-West	39928	31.3
	South East	14072	11.0
	South-South	12436	9.8
	South-West	13160	10.3
Educational Level	No education	63699	49.9
	Primary	25311	19.8
	Secondary	30756	24.1
	Higher	7779	6.1
Religion	Catholic	11135	8.7
	Other Christian	39316	30.8
	Islam	75942	59.5
	Traditionalist	677	0.5
	Other	475	0.4
Wealth Index	Poorest	31148	24.4
	Poorer	29448	23.1
	Middle	27120	21.3
	Richer	23210	18.2
	Richest	16619	13.0
Occupation Status	Unemployed	33052	25.9
	Employed	94493	74.1
Family Setting	Monogamy	5846	72.5
	Polygyny	2215	27.5

Source: Culled and analysed by Authors from 2018 NDHS Data

More than two-thirds (83.3%) of the respondents' fertility desires were higher than the ideal number of four children per woman. The result also revealed that the majority (65.4%) of the respondents were rural dwellers, relative to (34.6%) those living in urban centres. A significant majority (68.9%) of the respondents were from the three geo-political zones in the north, while less than one-third participated in the survey from the three geo-political zones in the southern part of the country.

About half (49.9%) of the population have no formal education. More than half of the respondents practised Islam (59.5%). Almost half of the respondents belong to the poorer and poorest category in the wealth index, while less than one-third were in the richer or the richest category. Nearly three-quarters of the respondents (74%) were employed in one form of occupation or the other. More than one-quarter (27.5%) of the respondents were in polygynous families.

Decision making in the family

Results show that the association between persons who decide on respondents' health and the number of children is statistically significant ($\chi^2= 5649.538$, $p=0.001$). The result further showed that women whose partners solely decide on their health had more than the ideal number of children relative to those who are responsible for deciding on their health.

Table 2: Decision on Respondents Healthcare

Number of children	The person who usually decides on respondents' healthcare				Chi-square statistic χ^2	p-value
	Respondent alone	Respondent and partner	Partner alone	Someone else		
Ideal	2908(25.5%)	9213(25.2%)	5666(8.8%)	34(20.8%)	5649.538	0.001
More than ideal	8487(74.5%)	27381(74.8%)	59011(91.2%)	212(79.2%)		
Total	6386	38229	67954	359		

Source: Culled and analysed by Authors from 2018 NDHS Data

Results from Table 3 below shows that there is a statistically significant association between a person's who decide how the respondent's earnings are spent and the number of children desired ($\chi^2= 1102.672$, $p=0.001$). Interestingly, the table shows that respondents comply most (24.4%) with the ideal number of children when decisions concerning how their earnings are spent are jointly taken by the woman and her

partner or husband. On the other hand, the desired fertility level is significantly higher when the decision concerning large household purchases is solely the decision of the respondent's partner or husband.

Table 3: Decision on how respondents' money is spent

Number of children	The person who usually decides how respondent's money is spent				Chi-square statistic χ^2	p-value
	Respondent alone	Respondent and partner	Partner alone	Someone else		
Ideal	1888(29.6%)	9322(24.4%)	6560(9.7%)	51(11.4%)	1102.672	0.001
More than ideal	4498(70.4%)	28907(75.6%)	61394(90.3%)	308(88.6%)		
Total	6386	38229	67954	359		

Source: Culled and analysed by Authors from 2018 NDHS Data

Regression Model of Respondents Socio-economic Variables and Fertility

Results from Table 4 above indicate that women in the poorest households were three times (OR=3.828, CI=3.560-4.117) most likely to favour fertility above the ideal number stipulated than those in the richest households.

Table 4: Regression Model of Respondents' Socio-economic Variables and Fertility

Variables	B	Odd Ratio OR	p-value	95% CI for OR	
				Lower	Upper
Constant	20.928	0.999	0.000		
Wealth Index					
Poorest	1.342	3.828	0.000***	3.560	4.117
Poorer	0.962	2.617	0.000***	2.470	2.774
Middle	0.699	2.012	0.000***	1.914	2.115
Richer	0.478	1.613	0.000***	1.540	1.690
Richest	RC	RC	RC	RC	RC
Occupation Status					
Unemployed	0.317	1.373	0.000***	1.314	1.435
Employed	RC	RC	RC	RC	RC
Educational Level					
No education	2.166	8.724	0.000***	8.147	9.340
Primary	1.024	2.785	0.000***	2.620	2.961

Secondary	0.341	1.406	0.000***	1.333	1.484
Higher	RC	RC	RC	RC	RC

Source: Culled and analysed by Authors from 2018 NDHS Data

***statistically significant at $p < 0.001$

RC=Reference Category

Furthermore, women's occupational status shows that unemployed women are most likely (OR=1.373, CI=1.314-1.435) to have more than the ideal number of children, relative to those that are employed. Another important socio-economic factor considered to be responsible for specific fertility behaviour in women of reproductive age is education. Women who did not have any formal education or training were eight times most likely (OR=8.724, CI=8.147-9.340) to have higher fertility relative to those with higher education or training.

Discussion of Findings

This study comprehensively examined Women's Autonomy and Fertility Behaviour: Evidence from the Nigeria Demographic and Health Survey 2018. Two specific objectives were then formulated for this study; they included examining the association between the dimensions of women's autonomy and fertility behaviour in Nigeria and documenting the socio-economic determinants of fertility behaviour in Nigeria.

Results from the bivariate cross-tabulation of dimensions women's autonomy and fertility behaviour show that the association between persons who decide on respondents' health and the number of children is statistically significant ($\chi^2 = 5649.538$, $p = 0.001$). The result further showed that women whose partners solely decide on their health had more than the ideal number of children relative to those who are responsible for deciding on their health. This result was similar to Rahman et al, (2014) findings that more than one-third of Bangladeshi women were not involved in decision-making about their health care.

Extending the findings of other cross-tabulated results show that there is a statistically significant association between the person who decides how the respondents' earnings are spent and the number of children desired ($\chi^2= 1102.672$, $p=0.001$). This means that when the decisions on spending respondents' money are expressly determined by others, women respond by increasing their fertility, but fertility is reduced when women can make decisions on their earnings. This conclusion supports Qadir's (2001) study that controlling one's income and spending is a symbol of authority and demonstrates one's power in the family. It's crucial for women's effective engagement in both family and non-family concerns. This was also in line with Ahmed and Perveen's (2002) findings that the amount to which women exercise control over their own and household economic resources determines their social autonomy and financial authority. As a result of this empowerment, they are able to resist cultural influences and have more effective control over their fertility.

The results of the regression model indicate that women in the poorest households were three times (OR=3.828, CI=3.560-4.117) most likely to give birth to children more than the ideal number stipulated than those in the richest households. This result corroborates Mberu and Reed's (2014) observation that an inverse relationship exists between wealth status and fertility behaviour, with significantly lower fertility among the richest women compared to the high fertility practised among the poorest population. Furthermore, women's occupational status shows that unemployed women are most likely (OR=1.373, CI=1.314-1.435) to have more than the ideal number of children, relative to those that are employed. This finding is consistent with Babalola and Akor's (2013) results that women that are employed in the formal sector have been noted to have fewer children relative to those that are unemployed. Another important socio-economic factor considered to be responsible for specific fertility behaviour in women of reproductive age is education. Women who did not

have any formal education or training were eight times most likely (OR=8.724, CI=8.147-9.340) to have higher fertility relative to those with higher education or training. This result aligns with Kraudal's (2000) findings that the aggregate educational level of women in a community negatively affect fertility more than the individual education of women. This finding contradicted Yurtseven's (2015) position that education does not significantly affect fertility behaviour. He, however, agreed that women's education level has a bigger impact on the fertility rate than men's education. Nevertheless, these findings contradict that of Morgan et al, (2002) in Southeast Asia whose findings indicate no significant relationship between socio-economic autonomy and fertility behaviour.

Conclusion and Policy Recommendations

From the above findings in this study, the following conclusion in line with the objectives of the study can be reached. Firstly, it can be concluded that women whose partners solely decide on their health had more than the ideal number of children relative to those who are responsible for deciding on their health. Secondly, this study concluded that women in the poorest households were most likely to favour fertility above the ideal number stipulated than those in the richest households. Furthermore, it is concluded in this study that women's occupational status significantly impact on their fertility decisions as unemployed women are most likely to have more than the ideal number of children, relative to those that are employed. Finally, women who did not have any formal education were most to have higher fertility relative to those with higher education. Consequently, the following recommendations have been suggested for policy purposes;

First, the government and other stakeholders must increase empowerment programmes such as fashion designing and basic computer literacy programmes

specifically target reproductive women to improve women's decision-making autonomy in the family. Additionally, government and policymakers must sustain and improve the socio-economic well-being of women, through massive enrolment in schools and the acquisition of entrepreneurial skills. Finally, there must be a synergy between government, religious leaders and traditional rulers on possible modifications of certain religious and cultural practices that limits the status of women thereby making them incapable of taking decisions over issues that concerns their reproductive health.

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