Modelling Child's Gender Preference among Married Women in Stable Union in Nigerian Families

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ABSTRACT
Gender preference has been a source of concern to public health practitioners. Couples who have strong gender preference stop having children only when they are satisfied with the family's sex composition. Consequently, this often increases fertility through short birth intervals and threaten maternal and child survival chances. In Nigeria, there is dearth of information on child's gender preference (CGP); this study was therefore designed to fill the gap. The study was retrospective cross-sectional in design and utilized 2008 NDHS dataset. It focused on married women aged 15-49(n=18,347) in stable union. The dependent variables are gender preference and gender specific preference. Data was analyzed using Chi-square and multiple logistic regression models. The mean age of the women was 30.96±8.67 and 38.8% have CGP. Among those women who have CGP, 72.1% have preference for male children. Male's CGP was predominantly high in the South-East (86.2%) and women in richest wealth index (75.9%). Age, region, education, age at first birth, religion, ethnicity, contraceptive use, marriage type, wealth index and current work activity were found to be significantly associated with CGP (p<0.05). Women in North-East, North-Central, South-West and South-East were 1.27(C.I=1.14-1.54), 1.38(C.I=1.25-1.54), 2.13(C.I=1.92-2.37) and 2.74(C.I=2.44-3.07) respectively more likely to have CGP than their counterparts in South-South. Regional differences persist even when the potential confounders were used as control. The prevalence of child's gender preference in Nigeria is high and majority have preference for male child, although, regional differences exist across the country. Strategies to eradicate child's gender preference should be developed.

Keywords: Gender preference; Married women; Stable union; Nigeria

MATERIAL AND METHODS

The study was retrospective cross-sectional in design and the data were extracted from the record of survey conducted by ICF Macro Calverton, Maryland, USA in conjunction with National Population Commission (NPC), Nigeria (Nigeria Demographic and Health Survey, 2008). During the survey, a multi-stage probability sampling was adopted to select the respondents who were women aged 15 to 49 years.

The current study focused on married women in stable union aged 15 to 49 years. Two independent variables were used in this study. These are; child gender preference (Yes or No) and child's gender

specific preference (Male or Female). In the questionnaire designed for the survey, a question was asked on the ideal number of children classified into males or females i.e if the respondents were to begin childbearing again, how many children of each sex would she prefer to bear. Higher reported figure for a particular sex shows preference for that sex. However, if the respondents reported the same number for each sex, it signifies no preference for gender. The variable was therefore recoded into two categories; **No preference = 0** and **Preference = 1**.

The analysis began with Chi-square model which was used to determine if there exist an association between gender preference and some background variables. Thereafter, variables found to be significant in the analysis (at 5%) were entered into ordinary logistic regression model establish further a relationship between the dependent variable and associated independent variables. Thereafter, the significantly related variables proceeded to multiple logistic regression to predict the strength of the associations between these variables and gender preference.

The logistic regression model is defined as;

Where p_i is the outcome measure and   is the proportion of women among the total sample who reported that they have preference for child's gender (either male or female) and   is the proportion of women who reported that they have preference for specific child's gender among women who have gender preference.   , are the regression coefficients to be estimated,   are covariates. These are classified into demographic, social and economic variables e.t.c.

Marital Stability

- MSU=73.43%
- MNSU=26.57%
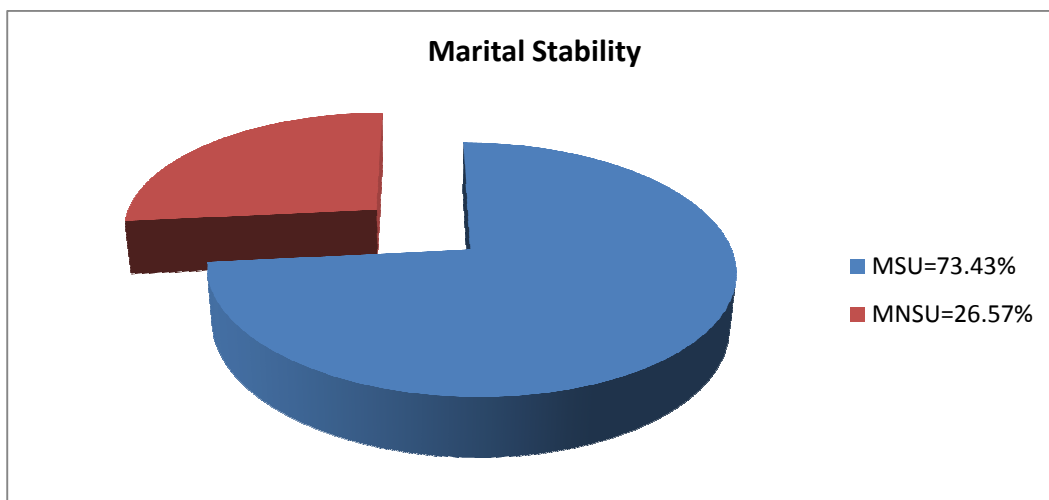
TABLE 1: Percentage Distribution of; Child's Gender Preference, Sex Specific Preference and Sex Odd Ratio by Demographic and Socioeconomic Characteristics among Married women in Stable Union in Nigeria

Background characteristics	Child's Gender Preference		Total	Sex Specific Gender Preference			
				Females	Males	Odd Ratio	
	No	Yes		(%)	(%)	Females	Males
Total	61.2(11227)	38.8(7120)	100.0(18347)	27.9	72.1		
Current Age*				**			
15-19	62.1(919)	37.9(562)	100.0(1481)	34.2	65.8	Ref.	Ref.
20-24	60.7(1798)	39.3(1164)	100.0(2962)	27.2	72.8	0.752	1.330
25-29	61.7(2551)	38.3(1586)	100.0(4137)	26.0	74.0	0.650**	1.538**
30-34	58.9(1922)	41.1(1339)	100.0(3261)	27.0	73.0	0.686***	1.458***
35-39	61.9(1695)	38.1(1042)	100.0(2737)	26.9	73.1	0.646***	1.548***
40-44	60.9(1229)	39.1(790)	100.0(2019)	29.5	70.5	0.698	1.432
45-49	63.6(1113)	36.4(637)	100.0(1750)	30.0	70.0	0.737	1.357
Mean±σ	31.00±8.72	30.89±8.58	30.96±8.67				
Region*				*			
North Central	60.7(1606)	39.3(1039)	100.0(2645)	35.8	64.2	Ref.	Ref.
North East	62.1(1667)	37.9(1017)	100.0(2684)	25.7	74.3	0.744	1.344***
North West	69.5(3080)	30.5(1354)	100.0(4434)	38.3	61.7	1.318***	0.759***
South East	44.5(969)	55.5(1208)	100.0(2177)	13.8	86.2	0.408*	2.454*
South West	50.4(1324)	49.6(1303)	100.0(2627)	29.1	70.9	0.810	1.234
South South	68.3(2580)	31.7(1199)	100.0(3779)	24.1	75.9	0.461*	2.169*
Residence							
Urban	61.2(3844)	38.8(2438)	100.0(6282)	26.8	73.2	NE	NE
Rural	61.2(7383)	38.8(4682)	100.0(12065)	28.4	71.6	NE	NE
Education*				*			
None	64.5(4754)	35.5(2620)	100.0(7374)	31.9	68.1	Ref.	Ref.
Primary	58.3(2458)	41.7(1757)	100.0(4215)	26.8	73.2	0.922	1.085
Secondary	58.5(2985)	41.5(2118)	100.0(5103)	25.4	74.6	1.056	0.947
Higher	62.2(1030)	37.8(625)	100.0(1655)	22.6	77.4	1.127	0.887
Religion*				*			
Christians	56.9(5363)	43.1(4058)	100.0(9421)	24.9	75.1	Ref.	Ref.
Islam	66.0(5622)	34.0(2897)	100.0(8519)	31.9	68.1	0.876	1.142
Traditional	57.8(167)	42.2(122)	100.0(289)	29.5	70.5	1.319	0.758
Others	63.6(75)	36.4(43)	100.0(118)	37.2	62.8	1.482	0.675
Ethnicity*				*			
Hausa	68.9(2824)	31.1(1274)	100.0(4098)	36.0	64.0	Ref.	Ref.
Igbo	47.6(1342)	52.4(1478)	100.0(2820)	14.9	85.1	0.718	1.394
Yoruba	68.0(2213)	32.0(1041)	100.0(3254)	30.2	69.8	1.834*	0.545*
Others	59.3(4847)	40.7(3327)	100.0(8174)	29.9	70.1	1.062	0.942
Wealth Index*				**			
Poorest	62.3(2316)	37.7(1399)	100.0(3715)	28.4	71.6	Ref.	Ref.
Poorer	63.6(2270)	36.4(1298)	100.0(3568)	29.0	71.0	1.111	0.900
Middle	59.8(1990)	40.2(1336)	100.0(3326)	31.1	68.9	1.441*	0.694*
Richer	57.6(2062)	42.4(1520)	100.0(3582)	27.5	72.5	1.486*	0.673*
Richest	62.3(2589)	37.7(1568)	100.0(4157)	24.1	75.9	1.408**	0.710**
Children Ever Born				*			
1-2	61.3(3283)	38.7(2076)	100.0(5359)	24.6	75.4	Ref.	Ref.
3-4	61.2(3025)	38.8(1920)	100.0(4945)	28.2	71.8	1.321**	0.757**
5+	61.1(3890)	38.9(2479)	100.0(6369)	31.3	68.7	1.525*	0.656*

Age at First Birth***				*			
<14	61.7(884)	38.3(548)	100.0(1432)	31.6	68.4	Ref.	Ref.
15-19	62.3(4775)	37.7(2886)	100.0(7661)	30.1	69.9	1.051	0.951
20-24	60.1(3074)	39.9(2045)	100.0(5119)	28.3	71.7	1.084	0.922
25-29	59.3(1145)	40.7(787)	100.0(1932)	22.3	77.7	0.926	1.080
30+	60.5(320)	39.5(209)	100.0(529)	14.8	85.2	0.458**	2.182**
Contraceptive Use*							
Never Use	62.5(7626)	37.5(4581)	100.0(12207)	28.5	71.5	NE	NE
Ever Used	58.6(3600)	41.4(2539)	100.0(6139)	26.7	73.3	NE	NE
Current Use of Contraception***				**			
No	61.6(9351)	38.4(5839)	100.0(15190)	28.5	71.5	Ref.	Ref.
Yes	59.4(1876)	40.6(1281)	100.0(3157)	24.9	75.1	0.813***	1.229***
Type of Marriage***				*			
Monogamy	60.9(7622)	39.1(4891)	100.0(12513)	26.3	73.7	Ref.	Ref.
Polygamy	62.9(3008)	37.1(1771)	100.0(4779)	31.5	68.5	1.101	0.909
Work Status*							
Not Working	62.8(3475)	37.2(2056)	100.0(5531)	29.1	70.9	NE	NE
Working	60.5(7692)	39.5(5019)	100.0(12711)	27.4	72.6	NE	NE

TABLE 2: Coefficients from the Ordinary Logistic Regression Models Predicting Child Preference as a function of Background Characteristics among Married women in Stable Union in Nigeria

Background	Model 1			Model 2			Model 3		
Characteristics	β	S.E	Wald	β	S.E	Wald	β	S.E	Wald
Demographic									
Age	-0.011	0.010	1.222	-0.029**	0.010	7.896	-0.032**	0.011	8.813
Region	-0.010	0.010	0.972	-0.031**	0.011	8.021	-0.029***	0.011	6.570
Education	0.087*	0.018	22.861	-0.009	0.022	0.171	0.006	0.025	0.055
Age at First Birth	0.016	0.019	0.662	0.033	0.020	2.627	0.035	0.021	2.821
Social									
Religion				-0.298*	0.036	67.641	-0.293*	0.036	64.992
Ethnicity				0.028	0.015	3.788	0.024	0.015	2.735
Contraceptive use				0.149**	0.050	9.007	0.152**	0.050	9.159
Current Use				-0.066	0.056	1.422	-0.063	0.056	1.252
Marriage type				0.013	0.040	0.108	0.013	0.040	0.106
Economic									
Wealth Index							-0.020	0.016	1.546
Work activity							0.066	0.038	2.949

Constant	-0.507*	0.059	73.185	-0.003	0.119	0.001	-0.007	0.122	0.003
-2LogLikelihood	22243.9			20650.6			20528.3		
R Square	.003			0.012			0.013		

*Significant at 0.1%; **Significant at 1%; ***Significant at 5%*

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TABLE 3: Coefficients from the Multiple Logistic Regression Models Predicting Child Preference as a function of Background Characteristics among Married women in Stable Union in Nigeria

Background Characteristics	Multivariate 1				Multivariate 2			
	β	Exp(β)	95% C.I for Exp(β)		β	Exp(β)	95% C.I for Exp(β)	
			Lower	Upper			Lower	Upper
Education								
None	-0.097	0.908	0.813	1.014				
Primary	0.164	1.178**	1.048	1.324				
Secondary	0.156	1.169**	1.043	1.310				
Higher	R.C	1.000	R.C	R.C				
Age								
15-19					0.263	1.301**	1.122	1.509
20-24					0.209	1.232**	1.087	1.396
25-29					0.122	1.130***	1.004	1.272
30-34					0.220	1.246*	1.103	1.408
35-39					0.081	1.084	0.955	1.231
40-44					0.130	1.139	0.995	1.303
45-49					R.C	1.000	R.C	R.C

		B	Exp(B)	Lower	Upper
Region					
North Central		0.325	1.384*	1.245	1.539
North East		0.242	1.274*	1.136	1.429
North West		-0.090	0.914	0.819	1.019
South East		1.007	2.738*	2.443	3.069
South West		0.758	2.133*	1.917	2.374
South South		R.C	1.000	R.C	R.C
Religion					
Christianity		0.045	1.046	0.712	1.535
Islam		0.080	1.084	0.738	1.591
Traditional		0.082	1.085	0.693	1.701
Others		R.C	1.000	R.C	R.C
Contraceptive Use					
Ever Used		-0.021	0.979	0.911	1.053
Never Used		R.C	1.000	R.C	R.C
Constant	-0.499	-0.953	0.386*		
-2 Log likelihood	24442.4	23895.3			
Cox & Snell R^2	0.004	0.033			
Nagelkerke R^2	0.005	0.044			

*Significant at 0.1%; **Significant at 1%; ***Significant at 5%*