"Cementing" Marriages through Childbearing in Subsequent Unions: Insights into fertility differentials among first-time married and remarried women in Ghana

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Abstract

Fertility in Ghana has declined steadily since 1980, however, a slight increase was observed between 2008 and 2014. While several factors may account for this pattern, research on the contribution of type of union is limited. This study examined the impact of the characteristics and fertility needs of women in different types of union on fertility. Secondary data from 6,289 ever-married women aged 15-49 were analysed using compare means, ANOVA and linear regression analyses. The total sample of ever-married women and first-time married women had three children on average while remarried women had four children on average. Furthermore, remarried women had one more child (β=1.02, $p<0.001$) than their first-time married counterparts in the unadjusted model. However, in the fully adjusted model, there were no significant differences in the fertility of first-time married and remarried women. Fertility among remarried women appears to be uniquely different and requires specific policy interventions.

Introduction

Marriage and childbearing (fertility) are integral components of cultural and social processes in Africa and because of the inter-relationship between marriage and reproduction, marriage is considered an integral part of demographic processes as well (Anna, 2011). Furthermore, the social and legal arrangement of marriage in the sub-Saharan African region gives a couple the right to form a family as marriage is recognised as the beginning of sexual exposure, leading to childbearing (Griffith et al., 1985; Isiugo-Abanihe, 1998; Wineberg, 1990; Musick and Bumpass, 2006). Additionally, even though marriage and its basic function has evolved, it is still recognized as vital because in most societies, childbearing in marriage is acceptable and a high number of births still occur within marriage (Martin and Bumpass, 2009; Hayford et al., 2014; Edin and Kefalas, 2011).

Changes in marriage and fertility patterns have been observed in the sub-Saharan Africa region over the last five decades (Garenne and Macro 2008, Bongaarts 2007, Tabutin and Schoumaker 2004, Lesthaeghe 1989). In recent years, some sub-Saharan African countries have experienced a stall rather than a decline in fertility. In Ghana, a slight increase in total fertility rate was observed between 2008 and 2014 children following a decline between 2003 and 2008. While there is ongoing research into possible explanations for the observed pattern of fertility in Ghana, there has been very limited research on the potential influence of type of marriage/union particularly among women.

Previous research has focused on the dichotomy of marital versus mon-marital fertility or fertility differentials in polygamous versus monogamous types of unions but not much on first-time marriage versus remarriage. But in a social and cultural context where societal expectations about childbearing when a woman marries are high (Adegoke, 2010), such research is necessary and important as the type of union; whether first-time marriage or remarriage has implications for fertility, given that children are expected in every marital union (Olatoregun et al., 2014; Takyi and Taylor, 2001). Such expectations are so pervasive that soon after marriage, society expects evidence of fertility and this legitimizes the marriage and until that is fulfilled, the marriage is not considered “concrete” or “cemented” (Griffith et. al., 1985; Isiugo-Abanihe, 1998; Fussell and Palloni, 2004). Furthermore, Musick (2007) and Bramlett and Mosher (2001), reported that over seventy (70%) percent of women who divorce remarry and the social milieu where a woman is expected to validate her marriage by proving her fertility in all the number of unions she may be involved in gives rise to fertility differentials among women who are in a first-time marriage and those who have remarried. For example, an older woman who enters a second or higher order union irrespective of the number of children she already has may not use contraception because of the desire of having children in the new union. The extent to which this could impact the decline in contraceptive prevalence rate in Ghana thereby contributing to the stalled fertility in the country is unknown. This study thus aims to examine fertility behaviours that are peculiar to women in first-time marriage and those in remarriages and how their fertility is further impacted by their demographic and socio-economic characteristics.

Methodology

Source of data

This study uses secondary data from the 2014 Ghana Demographic and Health Survey (2014 GDHS). The Demographic and Health Surveys (DHS) are nationally representative surveys that provide key demographic and health indicators on a number of development indicators including fertility and under-five mortality, breastfeeding practices, maternal and child health (anaemia status and anthropometric measurements of women and children), domestic violence, female autonomy, awareness and use of family planning methods among others for the purposes of policy formulation, monitoring and evaluation and national comparability. This study used data from women's data file as it contains information on the variables of interest including the number of children ever born, marital status and similar information relating to marriage, contraception, and other social-demographic characteristics on women aged 15-49 years.

Sample design and selection

The sampling frame for the 2014 GDHS was obtained from the complete list of census enumeration areas (EAs) created for the Ghana 2010 Population and Housing Census. The sampling frame provided information on the location of the EA, type of place of residence (rural/urban) and an estimated number of residential households. Respondents for the survey were selected through a two-stage stratified sampling procedure which made provision for all the ten regions in Ghana to be stratified by urban and rural areas using probability proportional to size of the EA. At the first stage of sampling, a total of 216 and 211 EAs were selected from the urban and rural strata respectively, making a total of 427 EAs. In the second stage of sampling, 30 households per EA were systematically selected resulting in a total of 12,831 selected households. Females aged 15-49 years in the selected households were eligible to be interviewed for the survey.

Study Subjects

A total of 9,396 women were successfully interviewed for the 2014 GDHS. For the purpose of this study, all women between the ages 15-49 years who have ever been married or lived with a man as if married (cohabited) were included in the analyses while those who have never been married were excluded. Ever-married women include women who are either currently married or those who are separated, divorced or widowed. The inclusion criterion of ever been married allows for women who are not currently married (or cohabiting) but may have been married (or cohabited) once or more than once in the past to be included in the analysis. For those women who were currently married (at the time of the survey), they may be in a first or subsequent union. The inclusion criteria of ever been married thus allows these women to be included in the sample as well. Based on the inclusion and exclusion criterion, women who have never been married or cohabited but are within the 15-49 years bracket were excluded from this sample because they do not have the characteristics of interest, that is, being married once or married more than once. An analytical sample 6,289 (weighted) ever married women was realised after applying the inclusion and exclusion criteria and excluding missing cases (n=13).

Variables

The dependent variable for this study is the total number of children ever-born which (CEB) which was used as an indicator of women's fertility and measured as a continuous variable. The measure comprises of all children born alive (life time fertility) to individual women in study sample. The main independent variable for this study is type of union, which was measured as a dichotomous variable with two categories 'first-time marriage' or 'remarriage'. The category first-time marriage is delineated for women who have been married or lived with a man as if married (in union) only once in their lifetime whereas 'remarriage' denotes women who have been in union more than once regardless of the number of subsequent unions. The study controls for other proximate determinants of fertility (fertility behaviours) as well as the demographic and socio-economic characteristics of the respondents. The proximate determinants include current use of contraception which was measured as a dichotomous variable with two categories of 'no method' and 'any method (both modern and traditional)', marital status measured as a dichotomous variable with two broad categories of 'formerly in union' and 'currently in union', age at first cohabitation as a categorical variable with four categories of <20 years, 20-24 years, 25-29 years and 30+ years and duration of cohabitation in five year age groupings of 0-4, 5-9, 10-14, 15-19, 20-24, 25-29 and 30+ years. Other demographic and socio-economic variables including age in five year age groups (15-19, 20-24, 25-29, 30-34, 35-39, 40-44and 45-49 years), level of educational attainment (no formal education, primary, junior high, senior higher and higher), religious affiliation (Catholic, Protestants, Charismatics, Other Christian, Islam and other), lineage (matrilineal or patrilineal), occupation (not working, professional/technical/managerial/clerical, sales/services, agricultural and manual), place of residence (rural and urban) and wealth quintile (poorest, poorer, middle, richer and richest) were also controlled for.

Data analysis

The characteristics of the study sample were described using means and percentage. The association between number of children ever born and women's demographic and socio-economic characteristics were tested using compare means, one-way analysis of variance (ANOVA) and t-test. Additionally, multivariate linear regression analysis was performed to examine the factors that influence fertility. Three models were fitted in a stepwise sequence. In the first model (Model 1), the main independent variable; type of union was regressed on the dependent variable (total number of children ever born) to examine the independent effect of the type of union on fertility among the general sample of women. The second model (Model 2) regressed the main independent variable (type of union) and the proximate determinants of fertility (marital status, age at first cohabitation, cohabitation duration and contraception) on the dependent variable to examine the effect of type of union on fertility in the presence of the proximate determinants of fertility. The third model (Model 3), included the main independent variable (type of union), the proximate determinants of fertility and the demographic and socio-economic characteristics of the women. The various analyses were performed for the total sample of ever-married women and separately for women in first-time marriage and remarriage. For the regression analysis, Models 1, 2 and 3 were specified for the total sample of ever-married women while only Models 2 and 3 were specified for the sub-sample of first

time married women and women in remarriage. Statistical significance for the associations examined was set at the 5 percent alpha level ($p<0.05$). The data analysis were performed using the Scientific Package for Social Scientists (IBM SPSS) Statistics version 22.

Results

Characteristics of the study sample

The results in Table 1 show that the average number of children ever born to the total sample of ever married women and women in first-time marriages was about 3.4 and 3.2 respectively while remarried women had about one 1 more child (4.18) than the total sample of ever married women and their counterparts in first-time marriages. Regarding the distribution by union type, about 77% of the sample of ever-married women had been in a first-time marriage and in terms of marital status, over 80% of the women were in union at the time of the survey. A high proportion of all the three groups of women first cohabited with a man before attaining 20 years; 53.8% of all women, 49.2% of first-time married women, and 69.2% of remarried women (Table 1). Longer periods of cohabitation was comparatively more common among women who have remarried. Over 70% of the women across the three groups were not using any method of contraception with the proportion observed among remarried women being the highest (78%). On the other hand, the proportion of women who were using any method of contraception to delay or avoid pregnancy was highest among first-time married women at 26.8% and lowest among remarried women at 21.8 %. About two-fifths of the women in the general sample of all women were aged 30-34 and 35-39. While about one-fifth (20.6%) of the first-time married women were aged 25-29 and a little over one-fifth (22.5%) of those who were remarried were aged 35-39. About a quarter of the women had no formal level of education and only a few of them particularly remarried women had higher than secondary level of education. Over 70% of the women, irrespective of the sub-group were of different Christian faiths. In terms of lineage, a little over half of the general sample of women (50.8%) were patrilineal and women in first time marriages were of patrilineal descent while a slightly higher proportion of remarried women (56.6%) were of matrilineal decent. In terms of occupational groupings, women who were engaged in professional/technical/clerical types of work were in the minority across all the sub-groups of women. In terms of place of residence, a little over half of the general sample of women and women in first-time marriages lived in urban areas (51.1% and 52.6% respectively) while more than half of remarried women (54.1%) lived in rural areas. Regarding wealth status, while about a quarter (24.8%) of women in a first-time marriage belonged to the richest category about a similar proportion of their remarried counterparts (26%) belonged to the poorer quintile (Table 1).

Variations in number of children ever born

The variations in the number of children ever bon to the various groups of women by their socio-demographic characteristics are shown in Table 2. Women who have remarried had at least one child more than women who were in a first-time marriage (4.18 and 3.15 respectively). Similarly, among the general sample of women, those in union at the time of the survey had 0.24 more children than women who were formerly in union. The results generally show that women who first cohabited at younger ages had more children than women who cohabited at older ages but among remarried women, this inverse relationship realized up until

the 25-29 age after which those who first cohabitated at age 30 and older had 0.7 more children than those who first cohabited before attaining 20 years. A positive relationship was observed between duration of cohabitation and mean number of children ever born in Table 2. Contrary to expectation, women who were using a method of contraception had more children than those who were not using any method of contraception. Again, remarried women who reported using any method of contraception had about one more child than women in the general sample and first-time married women who reported using contraception (Table 2). The results with regards to age is as to be expected; fertility tended to increase with age, with the oldest age-group having the highest number of children ever born across the three groups of women. Also, remarried women were also observed to have more children across all the age groups compared to women in the general and first-time married women. Considering education, each additional level of education attained was accompanied by a further decline in the mean number of children ever born although remarried women had the least decline at each educational level. Also, among the general sample of women and first-time married women, matrilineal women had fewer children than women with patrilineal descent. The reverse was however true among remarried women where matrilineal women (4.29) tended to have more children than patrilineal women (4.03). Comparatively, the fertility of Christians collectively was lower than that of Muslims and Other religious groups. Also, the fertility remarried women who were Christians tended to be higher (4.1) than women in first-time marriage (2.98) and all women in the general sample (3.3). A similar trend was also observed among Muslim women and women in other religious groups where remarried women had the highest fertility. In terms of occupation, women in professional/technical/clerical occupations had at least 0.7 children less compared to those who were not working but women in the other occupations had at least 0.4 children more than women who were not working. The result also showed women residing in rural areas had higher fertility; about one more child than their counterparts in urban areas. Again, remarried women in rural areas had at least a child more (4.58) than women in first-time marriage (3.65) and women in the general sample (3.89). The results, with regards to wealth index indicates that, fertility declines with increased wealth status. However, among the three groups of women, remarried women had one child more than their counterparts in the other samples of women across the various categories of wealth status (Table 2).

Predictors of children ever born

Three set of models were fitted in examining the factors that influence fertility among the sample of ever-married women. The first model specified among the general sample of married women was done in three steps; first model (Model 1) regressed only type of union on number of children ever born, the second model (Model) included other proximate determinants of fertility in addition to type of union while the third model (Model) controlled for other socio-demographic characteristics of the women. Additional models that were specified for the two sub-groups of women differentiated by type of union women (first-time marriage and remarriage) were done in two steps; Model 2 included proximate determinants of fertility while Model 3 controlled for socio-demographic characteristics.

The results of the first model among the all women (Model 1, Table 3) indicates that women in remarriage have one more child than their counterparts in first-time marriages. The situation however changes when other proximate determinants of fertility including marital status, age

at first cohabitation, cohabitation duration and contraception (Model 2) and socio-demographic characteristics (Model 3) were included in the model; type of union was no longer statistically significant in predicting children ever born and a reverse pattern of influence was observed. In Model 2 and 3, it was observed that, women who were in union had more children than their counterparts who were not in union and this was true among all the groups of women (Table 3). The results further indicate that, marital status significantly predicted the number of children women would have regardless the type of union they were in or type of model fitted. First-time married women who were in union had more children (0.83) compared to women who were not in union. Similarly, among remarried women, those who were in union had 0.56 children more than women who were not in union (Model 3, Table 3). Among the total sample of women, first cohabitation at older ages was associated with a decline in fertility in the fully controlled model. A similar pattern was observed among women in first-time married but among remarried women, the decline in fertility was only observed for those who first cohabited when they were 20-24 years old (β=-0.33, $p< 0.05$). Interestingly, remarried appear to have at older ages of cohabitation particularly at 30 years and older (Model 2), though statistical significance was not observed after controlling for socio-demographic characteristics (Model 3). Among first-time married women and all women sample, the coefficients shown in Models 2 and 3 indicate that, the longer women stay in union, the more children they would have as each successive cohabitation duration was accompanied by the addition of one child on average (Model 2 and 3). A similar trend was also observed among remarried women with the exception of 5-9 years (Model 2 and 3) and 10-14 years (Model 3) periods of cohabitation. Interestingly, women using any form of contraception to delay or avoid pregnancy had more children among all the three samples of women than women who were not using any method of contraception (Models 2 and 3). Among the different sub-groups of women, remarried women who were using any method of contraception had the highest number of children.

Regarding the socio-demographic characteristics, age showed a positive relationship with total number of children ever born among first-time married and the general sample of all women but not among remarried women. Also, there is an inverse relationship between level of education attained and number of children ever born among all women and first-time married women but among remarried women, only women who have had completed junior high level of education were observed to have significantly fewer children (β=-0.36) than women with no education. The results with regards to religious affiliation indicate that, only Islam and *other* religious group significantly influenced fertility among the total sample of all women and women in first-time marriages. In terms of lineage, women with matrilineal descent had 0.4 (all women sample), 0.3 (first-time married women) and 0.5 (remarried women) children more than their counterparts of patrilineal descent. In like manner, among the general sample of women and first-time married women, women in sales/servicing had fewer children than women who were not working, the only exception being women in manual occupations who had more children. However, among remarried women, occupation did not significantly predict number of children ever born. Type of place of residence did not significantly predict number of children ever born although the observed women residing in rural areas were observed to have fewer children than women in urban areas. The study further showed that, as wealth status increased, the number of children ever born to women decreased among all the samples of women (Table 3).

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Tables

Table 1: Background characteristics of women

Variable	All women		First-time marriage		Remarriage	
	Mean (std dev)		Mean (std dev)		Mean (std dev)	
Children ever born	3.39 (2.22)		3.15 (2.14)		4.18 (2.31)	
	Frequency	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
Type of union						
First-time marriage	4858	77.2				
Remarriage	1431	22.8				
Marital status						
Formerly in union	978	15.6	728	15.0	251	17.5
Currently in union	5311	84.4	4131	85.0	1180	82.5
Age at first cohabitation						
< 20	3381	53.8	2391	49.2	990	69.2
20-24	1831	29.1	1521	31.3	310	21.6
25-29	804	12.8	722	14.9	82	5.7
30+	273	4.3	224	4.6	49	3.4
Cohabitation duration						
0-4	1148	18.3	1091	22.5	57	4.0
5-9	1192	19.0	1045	21.5	148	10.3
10-14	1155	18.4	902	18.6	253	17.7
15-19	1019	16.2	717	14.8	302	21.1
20-24	856	13.6	553	11.4	303	21.2
25-29	646	10.3	403	8.3	243	17.0
30+	272	4.3	147	3.0	125	8.7

Variable	All women		First-time marriage		Remarriage	
Contraception						
No method	4675	74.3	3556	73.2	1118	78.2
Any method	1614	25.7	1302	26.8	312	21.8
Current Age						
15-19	118	1.9	115	2.4	3	.2
20-24	677	10.8	610	12.6	68	4.7
25-29	1167	18.6	1000	20.6	167	11.6
30-34	1232	19.6	993	20.4	239	16.7
35-39	1230	19.6	908	18.7	323	22.5
40-44	1016	16.1	700	14.4	316	22.1
45-49	849	13.5	533	11.0	316	22.1
Education Level						
No education	1656	26.3	1299	26.7	356	24.9
Primary	1207	19.2	801	16.5	406	28.3
Junior high	2523	40.1	1941	40.0	582	40.7
Senior high	594	9.4	522	10.8	71	5.0
Higher	310	4.9	294	6.1	16	1.1
Religion						
Catholic	617	9.8	503	10.4	114	7.9
Protestants	801	12.7	597	12.3	204	14.3
Charismatic	2587	41.1	1961	40.4	625	43.7
Other Christian	939	14.9	693	14.3	246	17.2
Islam	977	15.5	832	17.1	144	10.1
Other	369	5.9	271	5.6	98	6.8

Variable	All women		First-time marriage		Remarriage	
Lineage						
Matrilineal	3095	49.2	2285	47.0	810	56.6
Patrilineal	3194	50.8	2573	53.0	621	43.4
Occupation						
Not working	765	12.2	622	12.8	143	10.0
Prof/Tech/clerical	359	5.7	322	6.6	37	2.6
Sales/servicing	2798	44.5	2112	43.5	686	47.9
Agricultural	1535	24.4	1140	23.5	396	27.6
Manual Labour	831	13.2	662	13.6	169	11.8
Type of place of residence						
Urban	3212	51.1	2555	52.6	657	45.9
Rural	3077	48.9	2303	47.4	774	54.1
Wealth index						
Poorest	1106	17.6	913	18.8	193	13.5
Poorer	1140	18.1	767	15.8	372	26.0
Middle	1298	20.6	934	19.2	364	25.4
Richer	1337	21.3	1039	21.4	298	20.9
Richest	1408	22.4	1205	24.8	203	14.2
Total	6289	100	4858	100	1431	100

Source: GDHS, 2014

Table 2: Mean Children ever born by background characteristics of women

Variable	All women		First-time marriage		Remarriage	
	Mean (Std Dev)	F-value(p-value)	Mean (std Dev)	F-value(p-value)	Mean (std Dev)	F-value (P-value)
Type of union		**16.76 (0.00)**				
First-time marriage	3.15 (2.14)					
Remarriage	4.18 (2.31)					
Marital status		**10.35 (0.00)**		**15.36 (0.00)**		**0.17 (0.732)**
Formerly in union	3.18 (2.08)		2.90 (1.95)		3.99 (2.23)	
Currently in union	3.42 (2.25)		3.20 (2.17)		4.22 (2.33)	
Age at first cohabitation		**162.20 (0.00)**		**140.32 (0.00)**		**6.61 (0.00)**
< 20	3.89 92.29)		3.69 (2.24)		4.36 (2.30)	
20-24	3.08 (2.03)		2.94 (1.96)		3.78 (2.21)	
25-29	2.40 (1.80)		2.25 (1.66)		3.67 (2.38)	
30+	2.14 (1.89)		1.77 (1.45)		3.86 (2.62)	
Cohabitation duration		**803.50 (0.00)**		**774.26 (0.00)**		**61.12 (0.00)**
0-4	1.21 (1.07)		1.14 (0.93)		2.55 (2.15)	
5-9	2.30 (1.15)		2.29 (1.09)		2.42 (1.55)	
10-14	3.21 (1.476)		3.21 (1.46)		3.18 (1.54)	
15-19	4.20 (1.797)		4.24 (1.73)		4.12 (1.96)	
20-24	4.80 (2.116)		4.90 (2.04)		4.61 (2.24)	
25-29	5.37 (2.284)		5.32 (2.22)		5.46 (2.39)	
30+	5.87 (2.52)		6.11 (2.46)		5.59 (2.58)	
Contraception		**22.27 (0.00)**		**12.91 (0.00)**		**13.00 (0.00)**
No method	3.37 (2.28)		3.14 (2.19)		4.11 (2.39)	

Variable	All women		First-time marriage		Remarriage	
	Mean (Std Dev)	**F-value(p-value)**	**Mean (std Dev)**	**F-value(p-value)**	**Mean (std Dev)**	**F-value (P-value)**
Any method	3.44 (2.06)		3.20 (2.00)		4.41 (2.01)	
Current age		**455.90 (0.00)**		**381.88 (0.00)**		**51.18 (0.00)**
15-19	0.88 (0.68)		0.88 (0.67)		1.03 (1.24)	
20-24	1.49 (1.02)		1.46 (1.01)		1.78 (1.02)	
25-29	2.14 (1.28)		2.08 (1.30)		2.53 (1.11)	
30-34	3.13 (1.73)		2.96 (1.70)		3.81 (1.69)	
35-39	3.88 (1.94)		3.78 (1.90)		4.16 (2.03)	
40-44	4.73 (2.30)		4.60 (2.21)		5.00 (2.47)	
45-49	5.02 (2.51)		4.99 (2.47)		5.06 (2.57))	
Educational level		**268.90 (0.00)**		**238.02 (0.00)**		**28.53 (0.00)**
No education	4.47 (2.41)		4.35 (2.39)		4.88 (2.45)	
Primary	3.78 (2.32)		3.39 (2.19)		4.56 (2.38)	
Junior High	3.04 (1.87)		2.83 (1.75)		3.72 (2.04)	
Senior High	1.94 (1.40)		1.85 (1.33)		2.62(1.73)	
Higher	1.71 (1.41)		1.65 (1.39)		2.58 (1.54)	
Lineage		**3.20 (0.07)**		**23.06 (0.00)**		**0.62 (0.43)**
Matrilineal	3.34 (2.21)		2.99 (2.05)		4.29 (2.31)	
Patrilineal	3.44 (2.25)		3.29 (2.21)		4.03 (2.32)	
Religion		**30.87 (0.00)**		**34.21 (0.00)**		**4.39 (0.00)**
Catholic	3.37 (2.18)		3.23 (2.19)		3.97 (2.06)	
Protestant	3.07 (2.14)		2.73 (1.91)		4.05 (2.44)	
Charismatic	3.21 (2.08)		2.97 (1.96)		3.99 (2.27)	

Variable	All women		First-time marriage		Remarriage	
	Mean (Std Dev)	**F-value(p-value)**	**Mean (std Dev)**	**F-value(p-value)**	**Mean (std Dev)**	**F-value (P-value)**
Other Christian	3.35 (2.27)		2.97 (2.16)		4.42 (2.22)	
Islam	3.72 (2.34)		3.61 (2.31)		4.35 (2.40)	
Other	4.52 (2.54)		4.34 (2.54)		5.01 (2.48)	
Occupation		**171.80 (0.00)**		**189.17 (0.00)**		**27.41 (0.00)**
Not working	2.74 (2.00)		2.49 (1.89)		3.82 (2.12)	
Pro/tech/clerical	1.96 (1.52)		1.84 (1.46)		2.96 (1.68)	
Sales/servicing	3.12 (1.20)		2.94 (1.91)		3.77 (2.13)	
Agricultural	4.65 (2.41)		4.48 (2.39)		5.13 (2.41)	
Manual labour	3.10 (2.02)		2.83 (1.81)		4.18 (2.41)	
Type of place of residence		**108.10 (0.00)**		**114.03 (0.00)**		**5.32 (0.02)**
Urban	2.91 (2.00)		2.70 (1.89)		3.71 (2.19)	
Rural	3.89 (2.34)		3.65 (2.29)		4.58 (2.34)	
Wealth index		**217.40 (0.00)**		**162.44 (0.00)**		**46.52 (0.00)**
Poorest	4.38 (2.52)		4.18 (2.48)		5.33 (2.52)	
Poorer	4.24 (2.33)		3.96 (2.28)		4.82 (2.33)	
Middle	3.43 (2.11)		3.16 (2.03)		4.17 (2.13)	
Richer	2.87 (1.84)		2.68 (1.73)		3.53 (2.05)	
Richest	2.36 (1.65)		2.27 (1.61)		2.87 (1.76)	
Total mean	3.39		3.15		4.18	

Std Dev = Standard Deviation

Table 3: Predictors of fertility by type of union

	All women			First-time marriage		Remarriage	
Variable (reference)	**Model 1**	**Model 2**	**Model 3**	**Model 2**	**Model 3**	**Model 2**	**Model 3**
	β (std error)	**β (std error)**	**β (std error)**	**β (std error)**	**β (std error)**	**β (std error)**	**β (std error)**
Type of union (First-time marriage)							
Remarriage	1.02 (0.07) ***	-0.03 (0.05)	-0.05 (0.05)				
Marital status (Formerly in union)							
In union		0.88 (0.06) ***	0.74 (0.05) ***	1.02 (0.06) ***	0.83 (0.57) ***	0.53 (0.14) ***	0.56 (0.13) ***
Age at first cohabitation (< 20)							
20-24		-0.14 (0.05) **	-0.24 (0.06) ***	-0.11(0.05) *	-0.23 (0.06) ***	-0.27 (0.14)	-0.33 (0.16) *
25-29		-0.12 (0.07)	-0.27 (0.09) **	-0.19 (0.07) **	-0.37 (0.10) ***	0.48 (0.24)	0.125 (0.28)
30+		0.15 (0.11)	-0.51 (0.15) **	-0.17 (0.11)	-0.81 (0.15) ***	1.36 (0.32) ***	0.64 (0.43)
Cohabitation duration (0-4)							
5-9		1.12 (0.07) ***	0.60 (0.07) ***	1.17 (0.07) ***	0.64 (0.07) ***	0.17 (0.33)	0.22 (0.32)
10-14		2.06 (0.07) ***	1.09 (0.10) ***	2.13 (0.07) ***	1.15 (0.10) ***	1.00 (0.31) **	0.62 (0.34)
15-19		3.08 (0.07) ***	1.62 (0.13) ***	3.16 (0.07) ***	1.69 (0.13) ***	2.04 (0.31) ***	1.17 (0.40) **
20-24		3.70 (0.08) ***	2.00 (0.16) ***	3.83(0.08) ***	2.11 (0.16) ***	2.60 (0.31) ***	1.56 (0.46) **
25-29		4.31 (0.09) ***	2.53 (0.19) ***	4.31 (0.09) ***	2.53 (0.20) ***	3.45(0.32) ***	2.29 (0.52) ***
30+		4.84 (0.12) ***	3.12 (0.22) ***	5.13 (0.14) ***	3.24 (0.24) ***	3.63 (0.35) ***	2.94 (0.58) ***
Contraception (No method)							
Any method		0.25 (0.05) ***	0.34 (0.04) ***	0.18 (0.05) ***	0.30 (0.45) ***	0.51(0.13) ***	0.47 (0.12) ***
Current age (15-19)							
20-24			0.53 (0.15) **		0.46 (0.14) **		0.45 (1.13)
25-29			1.10 (0.16) ***		1.05 (0.15) ***		0.90 (1.14)
30-34			1.79 (0.18) ***		1.67 (0.17) ***		1.90 (1.15)
35-39			2.03 (0.20) ***		1.93 (0.19) ***		1.99 (1.17)
40-44			2.25 (0.22) ***		2.172 (0.22)		2.17 (1.19)
45-49			2.03 (0.24) ***		2.01 (0.24) ***		1.74 (1.22)
Educational level (No education)							
Primary			-0.16 (0.06) *		-0.24 (0.07) ***		-0.03 (0.14)
Junior High			-0.42 (0.06) ***		-0.43 (0.06) ***		-0.36 (0.14) *

	All women			First-time marriage		Remarriage	
Variable (reference)	**Model 1**	**Model 2**	**Model 3**	**Model 2**	**Model 3**	**Model 2**	**Model 3**
	β (std error)	**β (std error)**	**β (std error)**	**β (std error)**	**β (std error)**	**β (std error)**	**β (std error)**
Senior High			-0.62 (0.09) ***		-0.62 (0.09) ***		-0.54 (0.27)
Higher			-0.70 (0.13) ***		-0.74 (0.13) ***		-0.43 (0.58)
Religion (Catholic)							
Protestants			0.03 (0.08)		-0.05 (0.09)		0.30 (0.22)
Charismatic			0.06 (0.07)		0.07 (0.07)		0.06 (0.19)
Other Christian			0.14 (0.08)		0.07 (0.08)		0.34 (0.22)
Islam			0.25 (0.08) **		0.24 (0.08) **		0.23 (0.24)
Other			0.37 (0.10) ***		0.41 (0.11) ***		0.23 (0.26)
Lineage (Patrilineal)							
Matrilineal			0.35 (0.04) ***		0.27 (0.05) ***		0.53 (0.11) ***
Occupation (Not working)							
Prof/Tech/Clerical			-0.14 (0.12)		-0.12 (0.11)		-0.43 (0.42)
Sales/ Servicing			-0.62 (0.22) *		-0.59 (0.22) **		-0.46 (0.65)
Agricultural			-0.07 (0.05)		-0.07 (0.05)		-0.09 (0.13)
Manual			0.28 (0.06) ***		0.32 (0.07) ***		0.13 90.15)
Type of place of residence (Urban)							
Rural			-0.04 (0.05)		-0.03 (0.06)		-0.03 (0.13)
Wealth Index (Poorest)							
Poorer			-0.19 (0.07) **		-0.11 (0.07)		-0.61 (0.17) ***
Middle			-0.64 (0.07) ***		-0.47 (0.08) ***		-1.17 (0.19) ***
Richer			-0.94 (0.08) ***		-0.69 (0.09) ***		-1.64 (0.22) ***
Richest			-1.22 (0.09) ***		-0.89 (0.10) ***		-2.33 (0.25) ***
(Constant)	3.15 (0.03) ***	0.39 (0.08) ***	0.57 (0.17) **	0.25 (0.08) **	0.43 (0.17) *	1.54 (0.32) ***	1.42 (1.12)
R square	0.04	0.46	0.55	0.52	0.60	0.23	0.39
Adjusted R Square	0.04	0.46	0.55	0.52	0.60	0.23	0.37
F-value	242.98	440.77	207.39	477.50	200.69	39.32	24.41
P-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00

*p < 0.05 **p < 0.01 *** p < 0.001

Source: Computed from GDHS, 2014