

DENOMINATIONAL AFFILIATION AND FERTILITY BEHAVIOUR IN AN AFRICAN CONTEXT: AN EXAMINATION OF COUPLE DATA FROM GHANA

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Summary. Although studies have examined religious differences in fertility in sub-Saharan Africa, it is argued in this paper that using women-only sample data may be conceptually problematic in patriarchal African societies where the influence of husbands on their wives' reproductive preferences is paramount. The present study contributes to this discourse by examining the relationship between religion and fertility behaviour using matched-couple data from Ghana. Guided by the 'religious values' and 'characteristics' hypotheses, the results indicate significant religious differences in fertility. Compared with Traditionalists, Christians and Muslims have lower fertility, albeit these differences diminish significantly after controlling for socio-economic variables. The impact of wife's religious denomination on marital fertility is attenuated after controlling for husband's religious affiliation. Also, fertility was found to be higher if couples belong to the same faith compared with those of different faiths.

Introduction

There is a substantial literature on the effect of religious factors on fertility behaviour (Lutz, 1987; Goldscheider & Mosher, 1991; Gregson *et al.*, 1999; Knodel *et al.*, 1999; Lehrer, 1996a, 1996b, 2004; Stark & Finke, 2000; McQuillan, 2004; Adsera, 2006). In sub-Saharan Africa, the persistently high fertility rates have been attributed, in part, to deeply seated religious and cultural factors (Caldwell, 1982; Bongaarts *et al.*, 1984; Caldwell & Caldwell, 1987; Lesthaeghe, 1989). Yet, relatively few studies (mostly based on women samples) have examined contemporary religious differences in fertility behaviour in the region (e.g. Bailey, 1986; Berhanu, 1994; Gregson *et al.*, 1999; Avong, 2001). Without discounting their contributions, it is argued here that existing studies using women-only samples may be conceptually problematic in patriarchal African

societies where the influence of husbands on their wives' reproductive preferences is paramount (see Ezech, 1993). The primary objective of this paper is to examine religious differences in fertility in Ghana, a country where religion has become the framework for interpreting and contextualizing life events (Gyimah, 2007). The study contributes to contemporary research on fertility behaviour in sub-Saharan Africa by assessing the links between denominational affiliation and marital fertility using matched-couple data from the Ghana Demographic and Health Surveys.

Gauged by the number of people who consider themselves religious, Ghanaians are among the most religious people in the world, the major religious groups being Christianity, Islam and Traditional. According to a Gallup International poll conducted in 2000, about 98% of Ghanaians belonged to a religious organization with about 82% reporting regular religious worship (Gallup, 2000). These statistics point to the relevance of religion on the Ghanaian social fabric and have set the stage for scholarly research examining its role on various facets of social life, including politics (Aboagye-Mensah, 1994; Yirenskyi, 2000), educational attainment (Takyi & Addai, 2002), contraceptive use, HIV knowledge and premarital sex (Addai, 1999a, 2000; Takyi, 2003), and child mortality and maternal health service utilization (Gyimah *et al.*, 2006; Gyimah, 2007). Conspicuously missing are studies that systematically examine the influence of religion on fertility. Yet, religion cannot be decoupled from the fertility question in the African context given their interconnectedness and the fact that fertility decisions are often framed with religious undertones. Adherents of the Traditional religion, for instance, place high premiums on childbearing by associating high fertility with virtues and spiritual approval, and barrenness with divine curse. Accordingly, children are viewed as God's gift, or yet, as a way to pacify ancestors (Caldwell & Caldwell, 1987, 1990a, b). In Adongo and colleagues' 1998 study in northern Ghana (Adongo *et al.*, 1998), for example, it was found that fertility decisions were dictated, in large part, by expectations of ancestral spirits. It is argued here that in environments where childbearing decisions are framed within the context of such religious expectations, couples are less likely to behave in ways that challenge the status quo, thereby making religion salient in understanding reproductive preferences.

There are several theoretical models that explain religious differences in fertility, including differences in putative characteristics as well as theological norms and values pertaining to reproduction (Goldscheider, 1971; Lehrer, 1996a, b, 2004; McQuillan, 2004; Adsera, 2006). The religious value thesis in its various forms contends that the religious context in which individuals are socialized may impact their family values, attitudes and practices about sexual and fertility behaviours. As Lehrer (2004, p. 711) noted in her review of religion and demographic behaviour, 'some religions provide psychological and social rewards to couples with many children in the form of approval, social status and blessing'. Prior research has noted the pronatalist orientations of certain religious groups, notably Mormon, Catholic, Islam and conservative Protestantism (Marcum, 1981; Sander, 1995; Stark & Finke, 2000). According to Stark & Finke (2000), the high fertility of Mormons in the United States could be interpreted as a rational response to such rewards and approval. There is also evidence that Catholicism, which embodies strong pronatalist ideologies, associates with higher fertility (Goldscheider & Mosher, 1991; Lehrer, 1996a;

McQuillan, 2004; Adsera, 2006). Among Catholics in particular, a source of such differences may lie in the restrictive use of family planning services. As Avong (2001) has noted, Protestants in contrast to Catholics are either believed to have no proscriptions against contraception and abortion or have abandoned the tenet of faith for sectarianism. Regarding Islam, Morgan and colleagues (Morgan *et al.*, 2002) have argued that the predominance of patriarchal values discourages contraceptive use, thereby encouraging high fertility. For institutionalized religions, it can be argued that denominational differences in teachings on contraception, premarital births, as well as sanctions and rewards may in turn influence the timing of marriage and fertility levels. In the African context, however, denominational values and doctrines have been significantly impacted by the indigenous African heritage, which often serves as the background against which the activities of Islam and Christianity take place (Mazrui, 1986). Against this background, while we expect significant denominational differences in fertility in this study, the hypothesized effects are open to empirical verification.

The 'characteristics hypothesis', on the other hand, asserts that religious affiliation itself has little independent effect, and that religious variations in fertility behaviour reflect differential access to social and human capital, rather than religion *per se*. In the Ghanaian context, it is important to recognize that Muslims and Traditionalists, mostly found in the rural and northern parts of the country, have been disadvantaged in terms of access to education and health facilities. This has obvious implications for their reproductive choices and fertility preferences. To test these hypotheses, a series of models with and without statistical controls are estimated. The base model has religion as the only independent variable. In subsequent models, controls for socioeconomic and bio-demographic factors are introduced to assess the independent effects of religious affiliation net of the control variables.

Data, Measures and Methods

Due to the interest in husband and wives' characteristics, matched-couple data from the 1998 and 2003 Ghana Demographic and Health Surveys (GDHS) are used for the analyses. The data are representative of Ghana's population and represent the third and fourth cycles in the series of surveys that began in the 1980s. The DHS surveys used standardized questionnaire instruments to collect detailed information on socio-demographic and health measures. In this study, the 1998 and 2003 data were pooled to ensure adequate sample size for detailed analysis. This resulted in a sample size of 2762 matched couples, composed of 629 and 2133 from the 1998 and 2003 samples respectively.

The dependent variable used for this study is the number of children the wife has at the time of the survey. It is important to note that in polygynous cultures, as is the case in Ghana, the fertility of husbands may differ from that of the wives because the former may have children with other wives. As a result, the fertility measure discussed here relates to children of the matched couple. In the discourse on religion and social demographic outcomes, the former has been measured in several ways, including the frequency of church attendance (religiosity), subjective views about God (Krause, 1993), and denominational affiliation (Goldscheider & Mosher, 1988; Gyimah *et al.*, 2006; Gyimah, 2007). The analysis in this paper is constrained by the

lack of multiple measures of religion in the dataset, and as such, denominational affiliation is used. As Lehrer (2004) has pointed out, however, religious affiliation on its own makes a difference to a host of economic and demographic behaviours. Given the patriarchal nature of Ghanaian society, the husband's and wife's religious affiliation are considered as the main independent variables. Although Ghanaians are affiliated with several religious groups, Christians, representing various denominations, account for more than half of the country's population. On the basis of theological homogeneity, the following religious groups are distinguished for both couples: Catholics, non-Catholic Christians, Muslims and Traditionalists. Also, a binary variable was created denoting whether the husband and wife belong to the same religious faith (intra-faith unions) or different faiths (inter-faith unions). Studies in the United States suggest that fertility of inter-faith couples tends to be lower than in intra-faith couples, which has been explained through the 'marital stability and bargaining effects' hypotheses (Lehrer, 1996a, b, 2004). For the multivariate models, theoretically relevant socio-demographic and socio-cultural variables are introduced as controls. On the basis of previous research in Ghana (e.g. Addai, 1999a, b; Gyimah, 2003, 2006), the following variables are used as controls: current age, age at first marriage, educational attainment of both husband and wife, monogamous marriage, contraceptive use, north-south region of residence, and rural-urban place of residence. Given the cross-sectional nature of the data, there is the possibility of reverse causality; that is, some of the explanatory variables may be affected by the response variable.

The analysis is carried out at two levels. First, a bivariate analysis examines the mean children ever-born (CEB) by religion and the control variables. Count data models are used for the multivariate analysis because the outcome variable is a non-negative count variable and, as Long (1997) has argued, using linear regression for such outcomes can result in inefficient, inconsistent and biased estimates. While some argue that the birth function follows a Poisson distribution (Gyimah, 2006), others suggest a negative binomial distribution (e.g. Espenshade & Ye, 1994; Mayer & Riphahn, 2000). The problem one faces with the standard Poisson model is that the equi-dispersion assumption that underlies its estimation approach is often violated. To make the choice between Poisson and negative binomial regression models, we study-tested but found no evidence of over-dispersion, suggesting a preference for the Poisson model.

Findings

Summary data pertaining to the sample are reported in Table 1. The majority of couples are Christians (Catholic and non-Catholic Christians) and about 76% marry within their own faith. Among heterogamous couples, the majority are non-Catholic Christian women married to men of another faith, but Muslim women are the least likely to have a husband from a different faith. It is also pertinent to note that almost 80% of the matched couples are in monogamous marriages. The data on educational attainment of couples highlight some interesting dynamics. In general, the educational attainment of husbands tends to be higher than that of their spouses. For instance, about half of the husbands have at least secondary education compared with about

Table 1. Descriptive statistics of variables used in analysis

	Married couples	
	Number	Percentage
Religious affiliation of wife		
Catholic	396	14.3
Non-Catholic	1378	50.0
Muslim	572	20.7
Traditional	416	15.0
Religious affiliation of husband		
Catholic	414	15.0
Non-Catholic	1154	41.8
Muslim	628	22.7
Traditional	566	20.8
Inter- and intra-faith unions		
Wife and husband belong to same faith	2107	76.3
Wife and husband belong to different faiths	655	23.7
Educational attainment of wife		
None	1373	49.7
Primary	484	17.5
Secondary/higher	905	32.8
Educational attainment of husband		
None	1015	36.7
Primary	342	12.4
Secondary/higher	1405	50.9
Type of marriage		
Monogamy	2171	78.6
Otherwise	591	21.4
Age of wife (mean)	31.9	SD (7.96)
Under 30 years	1156	41.9
30–39 years	1032	37.4
40–49 years	574	20.8
Wife's mean age at first marriage	18.6	SD (3.86)
Place of current residence		
Urban	744	26.9
Rural	2018	73.1
Region		
Northern Ghana	1036	37.5
Southern Ghana	1726	62.5
Ever used contraception		
Never	1369	46.6
Yes, traditional/folk method	267	9.7
Yes, modern method	1126	40.8
Current use of contraception		
None	2087	75.6
Yes, traditional/folk method	186	6.7
Yes, modern method	489	17.7
Survey year		
1998	629	22.8
2003	2133	77.2
Total sample size	2762	100.0

Source: pooled 1998 and 2003 Ghana Demographic and Health Survey couple data (Ghana Statistical Services & Macro International, 1999, 2003).

Note: northern, upper-east and upper-west regions are classified as 'northern Ghana', while Brong-Ahafo, Ashanti, eastern, western, central, Volta and Greater Accra are classified as 'southern Ghana'.

a third of wives. Table 1 also shows the remarkably low use of contraception among couples. While about 41% of wives have ever used a modern method, only 18% are currently using the method. Although the reasons for the precipitous drop in current use are beyond the scope of the present study, Parr's (2003) study among former contraceptive users in Ghana suggests a myriad of reasons for non-use, including health concerns and the desire for more children.

Bivariate results showing the mean number of children ever-born and the covariates are presented in Table 2. The analysis is stratified by age of the women at the time of the survey as under 30 years, 30–39 and 40–49 years. Women under 30 years can be thought of as those who have just begun reproduction and in this study they have a mean fertility of 1.96 children. Women aged above 40 years may be at the tail-end of childbearing and in this study have a mean of 6.06 children. The bivariate results reveal significant religious differences in fertility. For both husbands and wives, mean fertility is highest among Traditionalists, but there seems to be no remarkable differences among those of other religious faiths. Also, while the fertility of intra-faith couples is higher than inter-faith ones, the difference is not statistically significant.

Consistent with the broader literature, fertility is lowest among the highly educated although the differences tend to be less pronounced among younger women. There is also evidence that fertility is considerably lower for highly educated wives compared with their husbands. For example, mean children ever-born among highly educated women aged 40–49 years is 5.08 children compared with 5.47 for husbands with a similar level of education. Mean fertility is also lower among urban and southern residents although the differences are smaller among younger women. Significant fertility differences by previous and current contraceptive use are also discernible. Among current users, fertility is highest among those using modern methods compared with those who have never used any method. While this seems puzzling and counterintuitive, it is likely that those currently using modern methods are doing so after achieving or exceeding their desired fertility (possibility of reverse causation). Again, contraceptive use in West Africa is often adopted to assist 'spacing' of children as opposed to 'stopping'. The higher mean CEB of users of modern methods may be explained in part by shorter periods of postpartum sexual abstinence, breast-feeding and amenorrhoea because the periods of contraceptive use are often short (Caldwell & Caldwell, 1981; Parr, 2002, 2003).

While Table 2 indicates substantial religious differences in fertility, these differences may, however, be a function of the control variables. The results in Table 3 indicate that the religious groups differ considerably on the control variables. The literature on fertility, for instance, points to women's education as an important determinant of fertility, and the religious differences in education in Ghana are quite striking. More than 75% of women who identified as Muslim and 82% of Traditionalists have no formal education compared with less than a third of non-Catholic Christian women. Again, more than 70% of non-Catholic Christian women have husbands with at least secondary education compared with 13% and 22% among Traditionalists and Muslims respectively. It is also worth noting the geographic separation of the religious groups. In general, Muslims and Traditionalists tend to be spatially concentrated in the north and rural areas. It is thus important to control for these factors in a multivariate context in order not to confound the religion–fertility relationship.

Table 2. Mean number of children ever-born in Ghana

	Children ever-born			
	Wife under 30 years	Wife 30–39 years	Wife 40–49 years	All ages
Religious affiliation of wife*				
Catholic	1.93	4.31	6.20	3.72
Non-Catholic	1.91	4.11	5.66	3.56
Muslim	1.91	4.52	6.44	3.51
Traditional	2.22	5.20	6.74	4.50
Religious affiliation of husband*				
Catholic	1.90	4.29	5.98	3.71
Non-Catholic	1.93	4.17	5.66	3.58
Muslim	1.89	4.56	6.63	3.50
Traditional	2.17	4.68	6.49	4.24
Inter- and intra-faith unions				
Wife and husband belong to same faith	1.93	4.40	6.03	3.72
Wife and husband belong to different faiths	2.03	4.34	6.17	3.69
Educational attainment of wife*				
None	2.20	4.85	6.64	4.16
Primary	1.97	4.52	6.58	3.67
Secondary/higher	1.59	3.51	5.08	3.07
Educational attainment of husband*				
None	2.12	4.75	6.77	4.10
Primary	2.05	4.89	6.63	3.80
Secondary/higher	1.81	3.99	5.47	3.42
Place of current residence*				
Urban	1.66	3.45	4.83	3.08
Rural	2.05	4.77	6.54	3.95
Region*				
Northern Ghana	1.92	4.74	6.56	3.81
Southern Ghana	1.98	4.17	5.82	3.66
Ever used contraception*				
Never	1.90	4.37	5.91	3.64
Yes, traditional/folk method	1.87	4.09	6.15	3.39
Yes, modern method	2.06	4.46	6.23	3.89
Current use of contraception*				
None	1.90	4.35	5.98	3.64
Yes, traditional/folk method	1.96	4.26	6.15	3.68
Yes, modern method	2.22	5.00	6.35	4.40
Form of marriage				
Monogamy	1.91	4.30	6.03	3.59
Polygamy	2.16	4.64	6.16	4.16
Year of survey				
1998	1.86	4.17	6.29	3.56
2003	1.99	4.44	5.99	3.76
Overall	1.96	4.38	6.06	3.72

Source: pooled 1998 and 2003 Ghana Demographic and Health Survey couple data (Ghana Statistical Services & Macro International, 1999, 2003).

Notes: northern, upper-east and upper-west regions are classified as 'northern Ghana' while Brong-Ahafo, Ashanti, eastern, western, central, Volta and Greater Accra are classified as 'southern Ghana'.

* $p < 0.001$.

Table 3. Percentage distribution of control variables by wife's religion

	Wife's religion				Sample size
	Catholic	Non-Catholic Christian	Muslim	Traditional	
Husband's religion*					
Catholic	60·90	9·50	0·90	8·90	414
Non-Catholic Christian	18·20	74·50	1·90	10·50	1154
Muslim	3·00	2·90	94·60	8·40	628
Traditional	17·90	13·10	2·60	71·90	566
Religious homogeneity of couple*					
Belong to same religion	60·90	74·50	94·50	71·90	2107
Belong to different religions	39·10	25·50	5·50	28·10	655
Current use of contraceptives*					
Traditional/folk method	7·10	8·50	4·40	3·80	186
Modern method	21·20	22·00	13·60	5·80	489
Not using	71·70	69·50	82·00	90·40	2087
Ever used contraceptives*					
Traditional/folk method	11·10	10·70	7·50	7·70	267
Modern method	46·20	50·40	32·00	15·90	1126
Never used	42·20	38·90	65·50	76·40	1369
Husband's educational attainment*					
Primary	12·90	11·80	13·80	12·00	342
Secondary or higher	55·80	72·70	22·40	13·00	1405
None	31·30	15·50	63·80	75·00	1015
Wife's educational attainment*					
Primary	20·50	21·50	12·60	8·40	483
Secondary or higher	36·40	49·10	12·20	3·40	903
None	43·20	29·40	75·20	82·20	1973
Mean age at first marriage (years)*	18·15	18·87	18·40	18·26	2762
Place of current residence*					
Urban	22·50	36·20	25·00	3·10	744
Rural	77·50	68·80	75·00	96·90	2018
Type of marriage					
Monogamy	82·30	88·60	63·80	62·30	2171
Polygamy	17·70	11·40	36·20	37·70	591
Region*					
Northern Ghana	38·90	12·00	69·90	76·00	1036
Southern Ghana	61·10	88·00	30·10	24·00	1726

Source: pooled 1998 and 2003 Ghana Demographic and Health Survey couple data (Ghana Statistical Services & Macro International, 1999, 2003).

Notes: northern, upper-east and upper-west regions are classified as 'northern Ghana' while Brong-Ahafo, Ashanti, eastern, western, central, Volta and Greater Accra are classified as 'southern Ghana'.

* $p < 0.001$.

The multivariate results presented in Table 4 show four Poisson regression equations. Model 1, the baseline model, indicates significant religious differences in children ever-born. Predicted fertility is significantly lower for married women of all religious faiths

Table 4. Poisson regression model of religion and fertility for ever-married women, Ghana

	Children ever-born			
	Model 1	Model 2	Model 3	Model 4
Wife's religion				
Catholic	-0.19***	-0.16***	-0.15***	-0.07†
Non-Catholic Christian	-0.23***	-0.20*	-0.14*	-0.08*
Muslim	-0.24***	-0.13*	-0.14*	-0.09
Traditional (Ref.)	—	—	—	—
Husband's religion				
Catholic		-0.06	-0.06†	0.01
Non-Catholic Christian		-0.06*	-0.08*	0.05
Muslim		-0.15**	-0.15**	0.05
Traditional (Ref.)		—	—	—
Religious homogamy of couple				
Belong to same religion			0.04†	0.00
Belong to different religions (Ref.)			—	—
Control variables				
Current age				0.25***
Age ²				-0.01***
Current use of contraceptive				
Traditional/folk method				0.06
Modern method				0.05
Not using (Ref.)				—
Ever used contraceptives				
Traditional/folk method				0.01
Modern method				0.11***
Never used (Ref.)				—
Husband's educational attainment				
Primary				0.01
Secondary or higher				-0.07*
None (Ref.)				—
Wife's educational attainment				
Primary				-0.04
Secondary or higher				-0.21***
None (Ref.)				—
Age at first marriage				-0.50***
Place of current residence				
Urban				-0.20***
Rural (Ref.)				—
Region				
Northern Ghana				-0.06*
Southern Ghana (Ref.)				—
Form of marriage				
Polygamy				-0.04†
Monogamy (Ref.)				—

Table 4. Continued

	Children ever-born			
	Model 1	Model 2	Model 3	Model 4
Year of survey				
1998				– 0.01
2003 (Ref.)				—
Constant	1.50***	1.52***	1.19***	– 2.83***
Log-likelihood	– 6418	– 6413	– 6411	– 4897
Likelihood ratio χ^2	80	90	93	3120
Prob.> χ^2	0.000	0.000	0.000	0.000
AIC	4.65	4.64	4.64	3.56

Source: pooled 1998 and 2003 Ghana Demographic and Health Survey couple data (Ghana Statistical Services & Macro International, 1999, 2003).

Notes: northern, upper-east and upper-west regions are classified as ‘northern Ghana’ while Brong-Ahafo, Ashanti, eastern, western, central, Volta and Greater Accra are classified as ‘southern Ghana’.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.10$.

relative to Traditionalists. In particular, the fertility of non-Catholic Christian women is about 21% lower ($\exp - 0.23$) than that of women who identify as Traditionalists. Model 2 tests whether controlling for religious affiliation of the husband alters the observations in Model 1. Although the directions of the effects of the wife’s religion are consistent with observations in Model 1, there is an attenuation of their magnitudes. This suggests that taking the husband’s religion into account reduces the predicted religious differences in fertility among women of different faiths. For the husband’s religion in particular, Model 2 indicates that wives tend to have a significantly lower fertility if the husband is non-Catholic Christian or Muslim relative to being a Traditionalist.

While controlling for the religious homogeneity of the couple in Model 3 did not significantly change the magnitude of the religious effects in Model 2, Model 3 indicates that fertility is higher for couples of the same faith than those of different faiths. Controlling for the observed factors in Model 4 (the full model) resulted in a significant drop in the effects of the religious variables, rendering most statistically insignificant. Although one cannot rule out the possibility of unobserved factors (religious or otherwise), the overall results from Model 4 indicate that much of the denominational difference in fertility is explained through the control variables, providing some support for the characteristics thesis.

As Gyimah (2007) has argued, however, there is a need to distinguish between mediating and confounding effects of the control variables. One can think of maternal education and contraceptive use, for example, as mediating variables in that religion may influence a woman’s propensity to seek formal education or use contraception, which may in turn affect marital fertility. Previous work in Ghana, for example, has shown remarkable differences in educational attainment among the different religious groups. In Takyi & Addai’s (2002) study, women who identify as Traditionalists and

Muslims tend to be at the lower echelons of the educational ladder than Christians, hence the lower fertility of the latter (Gyimah, 2006; Takyi & Addai, 2002). On the other hand, factors such as region and place of residence have a confounding effect on religion in the Ghanaian context given the higher prevalence of Islam and Traditional religions in rural areas and northern Ghana. In general, urban fertility in sub-Saharan Africa is substantially lower than rural fertility, a difference of about 1.8 births per woman (Cohen, 1993). For Ghana in particular, not only are rural populations disadvantaged socioeconomically, but they are historically under-served in health infrastructure and health personnel (Brown, 1986). Additionally, Ghana also shows a marked north–south regional imbalance in development with roots in the historical and developmental processes of the country. Generally, the level of socioeconomic development is more advanced in the south than the north resulting in a marked spatial imbalance in accessibility to health services. Consistent with the geography of Ghana, a model that fails to control for these variables may well overstate the effect of religion.

Conclusions

Given the importance of religion on the African social landscape, it is not surprising that recent studies have examined its links with other social and health outcomes including contraceptive use, maternal health service utilization and child mortality. Surprisingly, very few studies have examined the interconnectedness between religion and fertility among couples. This paper argues that considering the overwhelming importance of husbands' influence on wives' reproductive preferences and dynamics, the link between religion and fertility cannot be adequately examined without taking into account the husband's religion as well. Using pooled couple data and guided by religious values and characteristics theses, the study examined the links between religious affiliation of both couples and fertility.

In the bivariate models, there were significant religious differences in the fertility measure. In general, fertility was lower for all religious faiths compared with Traditionalists, and this was true for both husbands and wives. Mean children ever-born, for example, was 3.56 among non-Catholic Christian women compared with 4.50 among Traditionalists. In models without socioeconomic controls, there was evidence that fertility was slightly higher for couples of the same faith compared with those of different faiths, which is consistent with the marital stability effect and bargaining effect observed elsewhere (Lehrer, 1996a 1996b, 2004). That is, couples of different faiths may have conflicting preferences on fertility necessitating negotiations and bargaining. The generally high fertility of Traditionalists relative to the Christian groups seems to reflect socioeconomic disparities. This conclusion stems from the multivariate analysis (Model 4) where there was a significant attenuation of the denominational differences once the socioeconomic and demographic factors were controlled. Christians tend to have lower fertility than Traditionalists, probably because they tend to be more 'westernized' and 'modern', putting them at a relative advantage to absorb new ideas about low fertility norms. Most Christians in Ghana must have benefited from the numerous educational institutions established by Christian churches as part of efforts to promote their missionary work (Takyi &

Addai, 2002). After controlling for observed characteristics, the religious differences disappear, providing support for the 'characteristics hypothesis' and suggesting that religious differences in fertility reflect socioeconomic and demographic disparities. Clearly, the religious difference is an artefact of socioeconomic characteristics, of which education plays a large role. Education has a negative impact on marital fertility through a variety of proximate factors. From a demographic standpoint, it may increase the age at marriage and expose couples to the efficient use of contraception, all of which contribute to a reduction in fertility (Gyimah *et al.*, 2005). In the case of Ghana, it may even be argued that the religious affiliation of some groups could be used as a proxy for their educational attainment. This is especially so for Christians whose religion came hand-in-hand with formal education in a bid to ensure the religion itself succeeds (Takyi & Addai, 2002).

It was interesting to know that husband's religious denomination attenuates the effects of wife's religion regarding marital fertility. Although this is consistent for all religious denominations, the effects are more pronounced for Muslims. Theoretically, this finding confirms the relevance of the husband in decisions pertaining to childbirth. Turning to the control variables, the directions of their effects are also consistent with theoretical expectations. Urban residence, higher education, southern residence, and late age at marriage were found to negatively affect fertility. The results also suggest a curvilinear relationship with age. Surprisingly, the contraceptive measures do not appear to be significant correlates of fertility, although the directions of their effects are consistent with theoretical suppositions.

To conclude, while this analysis of recent couple data shows that religion still remains an important correlate of marital fertility in Ghana, much of that difference can be attributed to socioeconomic differences. Further studies employing qualitative and multiple measures of religion are needed to examine the contextual aspects, and also help in resolving the precise mechanism through which religion impacts fertility behaviour. Such a study is expected to provide more insights into our understanding of the complex interrelationships between religion and fertility decisions.

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