The Effect of Religiosity on Male and Female Fertility[*]

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ABSTRACT

Religious affiliation as a determinant of fertility has drawn much of research attention. Some researchers, however, have challenged the association between religious affiliation and fertility. They have argued that once the religious groups' socioeconomic characteristics are controlled, the effect of religion on fertility disappears. Using data from the NSFG Cycle 6, this paper shows that fertility differentials in different religious groups could be spurious. And the spurious relationship is not caused by socioeconomic status of different religious groups, but is caused by religiosity. i.e., there are significant differences among the effects of other religious affiliations on children ever born compared to Catholic religion, controlling demographic and socioeconomic variables. But once religiosity is included in the regression models, the different effects of religious affiliations on fertility disappear. Also, there is no significant difference in the effects of religion on male and female fertility. This has rarely been examined in previous literature.

INTRODUCTION

Religion as a determinant of fertility has been well examined in previous literature; particularly, the association between the Catholic religion and high fertility has been stated repeated (Mosher and Hendershot 1984, Ryder and Westoff 1971, Welpton et al. 1966). There is a discrepancy, however, among researchers in terms of the impact of religious affiliation on fertility. Some researchers have argued that the association between religious affiliation and fertility is spurious, for fertility behavior can be accounted by the socioeconomic status of different religious groups. Once the religious

groups' socioeconomic characteristics are controlled, the effect of religious affiliation on fertility disappears. Other researchers, however, have contended that even after controlling the socioeconomic variables, the effect of religion on demographic behavior may still exist. Depending on different social contexts, both arguments have been supported by empirical analyses (McQuillan 2004).

To explore the relationship of religion and fertility, this paper uses data from the National Survey of Family Growth (NSFG) Cycle 6 to examine the impact of religious affiliation on fertility by incorporating the effect of religiosity. It intends to show that the relationship between religious affiliation and fertility could be spurious, and it is religiosity rather than religious affiliation that accounts for fertility variation among different religious groups. Additionally, the paper endeavors to include males in religion and fertility studies. It shows that religious variables affect both male and female fertility in a similar manner; and there are no significant differences in terms of the effects of religious variables on male and female fertility. The paper turns now to introduce the data, variables and measurements used in the analyses.

DATA, VARIABLES AND MEASUREMENTS

Data from the National Survey of Family Growth (NSFG) Cycle 6 2002 are used to conduct the analyses. Such a dataset is chosen because NSFG Cycle 6 for the first time includes men in its survey and it contains information on "fertility, marriage, cohabitation, contraception and related issues" of 7,643 women and 4,928 men (National Center for Health Statistics 2004: 5), which allows us to compare the determinants of fertility for both males and females. Meanwhile, this dataset contains a few religious

variables measured at the individual level, including the respondent (R)'s current religious affiliation, religious affiliation R was raised up, religiosity, and frequencies R attended or attends religious services. Such information provides us the possibility to correlate religion and fertility, and examine the effect of religious variables as a determinant of fertility.

The dependent variable in this study is fertility which is measured by children ever born (CEB) for both men and women. For men, the survey question asking for CEB is "how many biological children you have ever had?" And for women, the equivalent question is "how many live births you have ever had?"

The independent variables include the religious variables, namely, religious affiliation and religiosity, and the control variables including the demographic and socioeconomic variables. The religious affiliation variable is operationalized as the religious affiliation R was raised up and R's current religious afflation. Both measurements are included in this research because current religion and religion in childhood could play a role in people's fertility attitudes and behavior. Six categories are used to represent the religious affiliation, i.e., no religion, fundamental Protestant, other Protestant, Catholic, and other non-Christian religion. The second religious variable, religiosity, is represented by the importance of religion in R's daily life. And it is measured by three categories - "very important", "some important", and "not important." People whose religious affiliation was/are Catholic and the respondents who considered religion as "very important" are treated as the reference groups in the analyses.

The measurements of control variables are based upon the fertility theories interpreting fertility dynamics of females. Theories explicating women's fertility

behavior can be categorized into those focusing on (1) demographic factors such as age, race and ethnicity and nativity in determining female fertility; (2) socialization factors and parental influence, including educational attainment of parents, female parent's number of children ever born, and living arrangement in early childhood; (3) history of sexual life, cohabitation and marriage, indicated as age of first sexual intercourse, number of lifetime partners, if ever cohabiting, if ever married and numbers of cohabitation and spouses; (4) socioeconomic factors, measured as educational attainment and employment status. The four categories are considered to be exclusive to each other, and a framework based on these explanations is used as the guideline examining the effect of religion on fertility for both men and women in this study.

In terms of the impact of demographic factors on female fertility, previous studies show that being born outside of the United States has a positive effect on fertility. That is, foreign born people tend to have a larger number of children compared to native born population (Jaffe and Cullen 1975). The literature also consistently correlates age with women's CEB due to older women having been in the childbearing status for a longer period of time than younger women. Moreover, Hispanic origin is observed to be positively correlated to female fertility rates (Saenz and Morales 2005).

The impact of socialization factors on female fertility is also well examined. A woman's current fertility behavior is regarded as "both a product of the norms and beliefs instilled in the woman from her upbringing, as well as from current situational or structural factors that may enhance or inhibit women's fertility" (Ballard 2004: 23). Several specific socialization factors are found related to women's fertility. For example, researchers indicate that young women's attitudes and perceptions can be greatly

influenced by their mothers (Uhlenberg 1973; Unger and Molina 1997). Since female parent's educational attainment and fertility are closely associated with her socioeconomic status, lower socioeconomic status is often reflected in mothers having large numbers of children (Singley and Landale 1998). The smaller number of children by female parent is therefore expected to deter the daughter's CEB, and vise versa. The lower educational attainment of a female parent, representing a lower socioeconomic status is expected to have a positive effect on the daughter's fertility. Socialization factors can also be extended to the father's educational attainment and the person's living arrangements in early childhood. Father's education level is expected to have a similar effect on women's fertility as mother's educational attainment considering it represents the socioeconomic background of the family. Living arrangements in early childhood can be used as a socialization indicator because it indicates the extent to which children inherit the cultural traits from their parents. From an anthropological perspective, having a large amount of children is one of the cultural heritages that are supposedly passed down to descendants. And living with parents facilitates the process of this transcendence. According to this theory, living alone in early childhood may prevent the successors from inheriting the higher fertility tradition and thus lower the fertility rate (Boyd 2005).

Moreover, women's fertility is also shown to be impacted by their marital status. There is consistent agreement in the literature that being married has a positive influence on fertility behavior because the majority of fertility behavior does occur within the context of marital unions (Bongaarts 1982; Hervitz 1985; Mosher, Johnson and Horn 1986; Swicegood, et al. 1988). In a study of how fertility intentions affect fertility

behavior, Schoen and colleagues (1999) find that marital status is by far the most important predictor of intended fertility. Cohabitation, premarital sexual intercourse are found to have a significant effect on women's reproduction behavior as well (Manning 2001; Manning 1995; Miller and Heaton 1991).

Beyond the above factors, it has been suggested that socioeconomic factors regulate female fertility. The majority of literature relates both women's educational attainment and employment to their fertility behavior. Previous studies associate education and employment as indicators of the opportunity costs of childbearing for women. A reverse relationship has been found between labor force participation and women's fertility (Singley and Landale 1998; Smith-Lovin and Tickamyer 1978). Educational attainment is also often incorporated into the studies of female fertility, because it is found to influence women's decisions on childbearing (Bledsoe 1999; Ehrlich, Kim, and National Bureau of Economic Research. 2004). The literature has shown that greater levels of educational attainment have a depressing effect on fertility, even when controlling for other variables such as age and employment status (Bean and Swicegood 1982; Rubin-Kurtzman 1987; Sander 1992; Singley and Landale 1998; Swicegood, et al. 1988; Uhlenberg 1973; Unger and Molina 1997).

Based upon the above theoretical agenda accounting for female fertility, a series of control variables representing male and female characteristics are drawn from the NSFG Cycle 6 male and female respondent files. These variables are listed in Table 1, along with the descriptive analyses of these variables. The next part of the paper begins to present the descriptive results of the dependent as well as the independent variables.

DESCRIPTIVE ANALYSES OF VARIABLES

In Table 1, all percentages and values of means are weighted based on the final weights of each sample given by the NSFG dataset. On average, female CEB of the sampled population is slightly higher than that of males, 1.28 and 1.12 respectively. The standard deviation of male CEB is higher than that of females, suggesting more variation among male samples compared to females in terms of fertility.

*** Table 1 about here***

As to the religious affiliation variables, the majority of the respondents reported catholic as their religious affiliation when they grew up (0.36 percent for men and 0.35 percent for women). People whose religious affiliation when raised up was non-Christian religion count for the smallest percentages of the sampled population, with 0.07 percent for men and 0.05 percent for women. When it comes to the respondents' current religious affiliations, respondents with Catholic affiliation still count the highest percentage of the male and female samples. And respondents who reported themselves as non-Christian have lowest percentage among all religious groups (0.06 percent). The percentage distributions of the sampled population who claimed themselves currently as fundamental Protestant, other Protestant and other non-Christian religious groups remain similar compared to those of their religious affiliations when raised up. However, there are a lower percentage of people who are currently Catholic compared to that who used to be Catholic when they were raised up. For men, the percentage changes from 0.36 percent to 0.29 percent; and for women, such a percentage drops from 0.35 percent to 0.29 percent.

In contrast, the percentage of sampled men who currently have no religious affiliation increases to 0.19 percent compared to 0.08 percent of them had no religious affiliation when they were raised up. And the percentage of sample women who currently do not have religious affiliation increases to 0.14 percent compared to 0.08 percent of them claimed having no religious affiliation when they were raised up.

Regarding religiosity, the majority of the male and female respondents claimed that religion is important in daily life. Nevertheless, there is a higher percentage of female respondents who believed that religion is very important in their daily lives (0.58 percent) than men (0.47 percent). And there are a higher percentage of men who reported "religion is not important in daily life" than women (0.12 percent versus 0.06 percent).

For the other control variables, under the demographic composition, the average ages of sampled males and females are similar (around 30) with higher variation in male ages than in female ages. The racial distribution among men and women seem to be similar, with around 65 percent of the sampled population count as non-Hispanic whites.

The socioeconomic characteristics reported by sampled men and women show differences. There are higher percentages of females having no diploma as well as higher percentages of females having college degrees compared to males (36 percent and 33 percent for no diploma category, and 29 percent and 16 percent for college degree category). The percentage of women who have ever worked is lower than that for men (90 percent and 95 percent, respectively).

In terms of socialization factors, the distribution of parental educational attainment reported by male and female samples seems to be identical, with the majority of them holding high school diplomas. The average number of children born to female

parents reported by females is slightly higher that reported by males (3.46 and 3.38). The average percentage of men lived alone before age 18 (slightly less than 80 percent) is equivalent to the percentage of women.

Under the categories of "history of sexual life, cohabitation and marriage", some similarities and differences can be observed between men and women's reports. On average, men and women sampled seem to have a same reported age of having first sex (age 17). Around half of the sampled men and women reported having ever cohabitated. But, the reported average number of lifetime sexual partners for women is higher than that reported by men (5.67 and 4.94 respectively), with a higher standard deviation among female samples as well (0.12 for women and 0.05 for men). Interestingly, the average number of cohabitation partners reported by men is about twice as many as that reported by women (0.61 and 0.28 respectively). On the contrary, there are a higher percentage of women ever married than men (0.58 compared to 0.51) and the average number of marriages for women is 10 percent higher than that for men (0.72 percent and 0.62 percent). Values for number of marriages for men and women are both lower than 1.0 is due to the relatively younger ages of the sampled population. These descriptive analyses show gender differences in many aspects. The next section of the paper starts to introduce the regression models and to examine the effect of religious variables on fertility, controlling other fertility covariates. It also analyzes the gender effect in the relationship among religion, religiosity and fertility.

POISSON REGRESSION MODELS AND RESULTS

Given that CEB is a count variable, Poisson regression is the statistical procedure used to conduct these analyses. Poisson model is superior to ordinary least square (OLS) or other linear models in this instance because the distribution of a count variable, such as CEB, is one that is heavily skewed with a long right tail, especially in the cases of low fertility populations. The skewed distribution is due to the observed distribution of data having a very low mean, which reflects many women having children at lower parities and a few women having children at higher parities (Poston 2003), or many women desiring few children and few wanting many children. The same explanation can be used for CEB of men as well. However, if the mean of the data is high, the distribution will tend to be normal and then OLS models are suitable for evaluation.

The Poisson regression models are based on the univariate Poisson distribution. The shape of the univariate Poisson distribution depends entirely on the value of the mean of the observed distribution and is based on the following formula:

$$\Pr(Y = y) = \frac{\exp(-\mu)\mu^{y}}{y!}, \quad y = 0, 1, 2, \ldots$$

where: μ represents the mean, and y is an integer indicating the number of times the count has occurred, ranging from 0 to some higher positive integer (Long and Freese 2001; Poston 2003).

Since each sample has been provided a specific weight by the NSFG dataset, this study also uses the sample weights to conduct the Poisson regression analyses. The results presented in Table 2 and Table 3 are the odds ratios of Poisson regressions using religious affiliation R was raised up and R's current religion to predict CEB, respectively. The regression results presented by Tables 2 and 3 are based on analyzing

the pooled dataset of male and female samples. The benefit by using the pooled dataset is that it yields a larger sample size which avoids the problem of too few cases in certain selected variables. Moreover, it provides more accurate comparison results given male and female respondent files from the NSFG dataset containing different numbers of male and female samples with non-identical standard deviations.

Six models are constructed to assess the impact of religious affiliation on CEB as different sets of factors, controlling the demographic and socioeconomic covariates. Among the six regression models, the first model examines the effects of religious affiliation on fertility. The second model adds demographic composition. The third model further includes the socialization factors, i.e., the parental influences. The fourth model replaces the socialization factors by measurements of history of sexual life, cohabitation and marriage. The fifth model contains the religious affiliation variables, demographic factors and the socioeconomic measurements. And the sixth and final (full) model incorporates all previous variables. Below is an overview of the six models associated with the analyses the effect of religious affiliation on fertility.

Model 1: Religious affiliation.

Model 2: Religious affiliation + Demographic composition.

Model 3: Religious affiliation + Demographic composition + socialization factors.

Model 4: Religious affiliation + Demographic composition + history of sexual life, cohabitation and marriage.

Model 5: Religious affiliation + Demographic composition + socioeconomic status.

Model 6: Religious affiliation + Demographic composition + socialization factors + history of sexual life, cohabitation and marriage + + socioeconomic factors.

Multi-colinearity is assessed in the models. The results show putting both variables "number of times R has been married" and "if R has ever been married" into the model generates the problem of collinearity. The variable "number of times R has been married" is therefore dropped from the models.

*** Tables 2 and 3 about here***

Table 2 shows that when CEB is only predicted by religious affiliation R was raised up, having no religious affiliation when grew up decreases CEB by four percent compared to having Catholic religion. However, having fundamental Protestant religious affiliation when raised up increases CEB by eight percent compared to having Catholic affiliation. After controlling the demographic and socioeconomic factors, the differential effects on fertility between having no religious affiliation and being fundamental Protestant when grew up, and being Catholic disappear. But having other non-Christian religious affiliation multiplies the number of children born to a respondent by a factor of 1.12.

The effects of current religious affiliation on fertility are shown in Table 3. Similarly, when CEB is only predicted by the current religious affiliation variable, there are significant differences on CEB between the effects of having none religious affiliation and being a fundamental Protestant compared to being a Catholic. Nevertheless, when

demographic and socioeconomic variables are controlled, currently being a fundamental Protestant and having other Protestant affiliation tend to increase the CEB level compared to currently being a Catholic. These findings imply that the fertility differentials in different religious groups still exist even after controlling demographic composition of respondent and their socioeconomic status. This finding supports the previous studies claiming the association between religious affiliation and fertility.

This study then takes a step further by incorporating religiosity into the above regression models. The regression results based upon the combination of religious affiliation R was raised up and religiosity, and R's current religion and religiosity are shown in Tables 4 & 5, respectively. Apparently, when religiosity is added into these models, the differentiations of various religious groups' impact on fertility disappear. None of the religious affiliation variables are significant. This means that the fertility differentials in other religious groups compared to Catholic group do not exist. In contrast, religiosity shows a significant effect on CEB. That is, controlling religious affiliation R was raised up and other fertility covariates, reporting "religion is some important in daily life" decreases the respondents' CEB by over 10 percent compared to reporting "religion is very important in daily life"; and such an effect is decreased by another 15 percent by reporting "religion is not important in daily life" compared to claiming "religion is very important in daily life." Similar results are also shown in the regression models when evaluates the effect of current religious affiliation on fertility. These findings indicate that the fertility differentials among different religious groups are indeed caused by religiosity rather than the socioeconomic characteristics of these religious groups.

*** Tables 4 &5 about here***

The gender variable created in the pooled dataset shows a statistically significant value of 0.83 in Tables 4 & 5. This figure represents the gender effect in the models when predicting CEB. It means that being a male decreases the level of CEB by 17 percent compared to being a female, holding all the other fertility covariates constant. Again, a significant gender difference is shown when using the theoretical framework presented in the six models to predict fertility. Given the strong gender effect in determining fertility, the next question is whether the effects of religion and religiosity on male and female are significantly different?

To answer this question, the paper generates the gender interaction terms according to each independent variable and includes these terms into the regression models. Table 6 presents the findings when incorporating gender interaction terms into the full regression model to predict CEB. The religious affiliation the respondent was raised up and religiosity are the religious variables included in this table. Column 1 shows the regression results by analyzing the pooled dataset, which are identical to the results presented in the last column of Table 4. Column 2 provides the regression results by adding the gender interaction terms to predict CEB. These values are in fact identical to those by only using female dataset to conduct the analyses since female category is the reference group in this case. Column 3 presents the values of the gender interaction terms. The terms with statistically significant values mean that there is a significant difference between the effect of a certain independent variable on male and female CEB.

Column 4 and Column 5 show the regression results by only applying the full model to the female and male datasets separately.

*** Table 6 about here***

It is clear that none of the gender interaction terms for religious variables are significant in Table 6. This indicates that the effects of religious affiliation and religiosity on male fertility are not significant different from those on female fertility, holding all the other variables constant. Even though a few religious terms do show significant effects on fertility when male and female datasets are analyzed separately. For instance, females with no religious affiliation when grew up tend to have significantly lower fertility level compared to females who were Catholics when they were raised up. And such an effect is not significant on male fertility. Also, females reported "religion is some important" tend to have fewer children ever born compared to those who claimed that "religion is very important" in daily life. But this effect is not shown in the findings based upon the male samples. The possible reason to explain this discrepancy is that when only using one dataset, the different sample sizes and the non-identical standard deviations of male and female files have caused the different effects of religious variables on male and female fertility. The pooled dataset controls the effects of sample sizes and standard deviation on the relationship between independent and dependent variables. Thus the gender interaction terms more accurately display the differences of the independent variables' influence on male and female fertility. In this study, the non-significant values for the

religious variables indicate that religious affiliation and religiosity have no significant different effects on male and female fertility.

But at the mean time, a value of 0.37 in Column 3 for the gender variable indicates that being a male decreases the level of CEB by 63 percent compared to being a female, controlling all variables. This figure is not contradictory to the findings based on Column 3 because it represents the gender effect using the full model to predict male and female fertility.

The interesting finding presented by Column 3 is that after controlling all the other variables and the effects of sample sizes and non-identical standard deviations, history of sexual life, cohabitation and marriage, and labor force participation show significant different effects on men's and women's CEB. For men, having every one additional lifetime sexual partner decreases four percent of their CEB compared to being women. In addition, with every one additional cohabitation partner, the level of CEB is increased by three percent, while being man decreases this effect by 11 percent. Also, having ever been married increases the level of CEB by 27 percent. Being a man increase the effect of marriage on fertility by another 55 percent. Labor force participation, measured as whether or not the respondent has ever worked, does not show a statistically significant effect on CEB based on the pooled dataset. But there is a significant gender difference in the relationship between labor force participation and fertility. The directions of labor force participation results on MFF are also different. Participation in the labor force decreases female's CEB. But being a male multiplies the level of CEB by a factor of 1.82 compared to being a female. These variables are the factors that researchers need to pay more attention in future studies of male and female fertility.

Conclusion and Implications

This paper begins with discussing the disagreement among researches in terms of the effect of religion on fertility. It then examines the relationship between religious affiliation and CEB by incorporating religiosity. The results of the analyses show that the association between religion and fertility could be spurious. But this spurious relationship is not caused by the socioeconomic characteristics of different religious groups as suggested by previous research, but by religiosity shown in this paper.

This finding provides a possible direction of studying religion and fertility in future. The effect of religious affiliation on fertility that has been repeated stated by previous literature needs to be reexamined. Meanwhile, the significant influence of religiosity on fertility has also raised up an interesting demographic concern, i.e., why it is religiosity but not religious affiliation that determines fertility. This has not been discussed by this paper. Moreover, what is the significance of religious behaviors, such as church attendances? And how to combine religious beliefs and religious behaviors into a single model to explain variation in fertility is worth studying.

Beyond exploring the impact of religion and religiosity on fertility, this paper then takes a step further by including gender interaction terms to analyze the effects of religion on male and female fertility. It intends to compare the manner in which religious variables impact male and female fertility at the individual level. The regression results suggest that there is no significant difference between the effects of religious variables on male and female fertility. This finding is inconsistent to Corijn and Klijzing's (2001) findings by examining male and female transitions to adulthood in twenty-four European countries during the 1980s and 1990s. They have found that the effect of religion is

stronger on women than on men. Furthermore, being Catholic and attending church services affect men's and women's parenthood timing in different ways in predominantly Catholic countries. This inconsistency could be caused by different measurements of fertility. Timing of parenthood is the major measurement in Corijn and Klijzing's (2001) analyses, but CEB representing the level of completed fertility is used in this paper. Future research could extend the analyses by using NSFG to examine the effects of religious affiliation and religiosity on timing of paternity and maternity as well as the timing of union formation, such as cohabitation and marriage for men and women. This will provide a new perspective studying the correlation of religion and fertility and fertility related behavior.

Last, the significant gender differences found in history of sexual life, cohabitation and marriage, and labor force participation have demonstrated the importance of bringing men in fertility studies. Exploration of gender differences in shaping male and female reproductive behavior will eventually lead to the establishment of a systematic theoretical framework of male fertility.

Table 1. Descriptive Statistics of Religious variables and Other Fertility Covariates by CEB: U.S., 2002-2003

	Male			Female		
Variables	Mean (or %)	SD	N	Mean (or %)	SD	N
Dependent variables						
CEB	1.12	0.04	4,117	1.28	0.03	7,642
Independent variables						
Religious Affiliation Raised up			4,907			7,619
None	0.08			0.08		
Fundamental Protestant	0.23			0.25		
Other Protestant	0.24			0.26		
Catholic	0.36			0.35		
Other non-Christian religion	0.07			0.05		
Current Religious Affiliation			4,910			7,620
None	0.19			0.14		
Fundamental Protestant	0.20			0.23		
Other Protestant	0.25			0.28		
Catholic	0.29			0.29		
Other non-Christian religion	0.08			0.06		
Religiosity			3,939			6,522
Very important	0.47			0.58		
Some important	0.40			0.36		
Not important	0.12			0.06		
Demographic factors						
Age (mean)	29.83	0.23	4,927	29.97	0.17	7,643
Race			4,927			7,643
Hispanic	0.17			0.15		
Non-Hispanic white	0.65			0.66		
Non-Hispanic black	0.12			0.14		
Non-Hispanic other	0.06			0.06		
Nativity-if foreign born			4,927			7,643
Foreign born	0.85			0.86		
Native born	0.15			0.14		
Socioeconomic factors						
Education			4,927			7,643
No diploma	0.33			0.36		
High school or less	0.32			0.28		
Some college/college	0.16			0.29		
University and above	0.19			0.07		
If R ever worked						
Yes	0.95			0.90		
No	0.05			0.10		
Parental influence						
Highest degree female parent earned			4,927			7,643
Less than high school	0.21			0.24		

High school	0.38			0.36		
Some college	0.21			0.22		
Bachelor or higher	0.20			0.18		
Highest degree male parent earned			4,505			6,896
Less than high school	0.24			0.24		
High school	0.31			0.32		
Some college	0.19			0.19		
Bachelor or higher	0.26			0.26		
Number of children born to female parent (mean)	3.38	0.04	4,917	3.46	0.03	7,634
If R lived on own before age 18						
Yes	0.23		4,927	0.22		7,642
No	0.77			0.78		
History of sexual, cohabitation and marriage						
R's age at 1st sex (mean)	17.03	0.08	4,108	17.26	0.06	6,785
Number of lifetime partners (mean)	4.94	0.05	4,028	5.67	0.12	6,578
If R ever cohabited			4,927			7,643
Yes	0.49			0.50		
No	0.51			0.50		
Number of cohabitation partners (mean)	0.61	0.03	4,927	0.28	0.01	7,643
If R ever married			4,927			7,643
Yes	0.51			0.58		
No	0.49			0.42		
Number of times R has been married (mean)	0.62	0.02	4,927	0.72	0.02	7,643
Contraception and sterilization						
R ever had sterilizing operation			4,925			7,643
Yes	0.06				0.18	
No	0.94				0.82	

Sources: derived from NSFG Cycle6, 2002-2003.
Note: all percentages and values of means are weighted. Some sub-categories may not add up to 100% due to rounding.

Table 2. Odds Ratios of Religion Affiliation When Raised up and CEB: U.S., 2002-2003

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Religious variable						
Religion Raised up (ref. = Catholic)						
None	0.96*	0.97	0.98	0.99	0.98	0.99
Fundamental Protestant	1.08*	1.14***	1.10*	1.08*	1.10**	1.02
Other Protestant	0.92	1.03	1.09*	1.01	1.05	1.07
Other non-Christian religion	1.02	1.08	1.10	1.10	1.09	1.12*
Demographic factors						
Age		1.08***	1.08***	1.06***	1.08***	1.05***
Gender (ref. = female)		0.82***	0.83***	0.79***	0.82***	0.80***
Race (ref. group = non-Hispanic white)						
Hispanic		1.61***	1.35***	1.59***	1.43***	1.33***
Non-Hispanic black		1.24***	1.18***	1.37***	1.20***	1.35***
Non-Hispanic other		1.21*	1.15	1.32**	1.25**	1.29**
Nativity (ref. group = native born)						
Foreign born		0.97	0.92	0.98	0.93	0.89
Parental influence						
Highest degree female parent earned			1.00			1.00
Highest degree male parent earned			0.91***			0.96*
Number of children born to female parent			1.08***			1.06***
If R lived on own before age 18			1.29***			1.14***
History of sexual lifel, cohabitation and marriage						
R's age at 1st sex				0.95***		0.97***
Number of lifetime partners				0.99**		0.99*
Number of cohabitation partners				1.03*		1.03**
If R has ever been married				2.54***		2.68***
Socioeconomic factors						
Highest degree R ever earned					0.92***	0.94***
If R ever worked at all					1.02	0.92
N	11720	11692	10569	10800	11692	9750
Prob > F	0.0093	0.0000	0.0000	0.0000	0.0000	0.0000

Sources: derived from NSFG Cycle6, 2002-2003.

Note: R refers to respondent. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

Table 3. Odds Ratios of Current Religion Affiliation and CEB: U.S., 2002-2003

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Religious variable						
Current religious affiliation (ref. = Catholic)						
None	0.96*	0.98	0.98	0.98	0.98	0.99
Fundamental Protestant	1.20***	1.24***	1.19***	1.15***	1.19***	1.09*
Other Protestant	1.06	1.12*	1.18***	1.08	1.34**	1.12***
Other non-Christian religion	0.93	0.95	1.03	0.97	1.01	1.05
Demographic factors						
Age		1.08***	1.08***	1.05***	1.08***	1.05***
Gender (ref. = female)		0.83***	0.84***	0.79***	0.83***	0.80***
Race (ref. group = non-Hispanic white)						
Hispanic		1.61***	1.35***	1.59***	1.44***	1.34***
Non-Hispanic black		1.22***	1.16***	1.35***	1.18***	1.32***
Non-Hispanic other		1.23*	1.15	1.35**	1.26**	1.31***
Nativity (ref. group = native born)						
Foreign born		0.99	0.95	1.00	0.95	0.91
Parental influence						
Highest degree female parent earned			1.00			1.00
Highest degree male parent earned			0.91***			0.96**
Number of children born to female parent			1.07***			1.05***
If R lived on own before age 18			1.28***			1.14***
History of sexual life, cohabitation and marriage						
R's age at 1st sex				0.95***		0.97***
Number of lifetime partners				0.99***		0.99*
Number of cohabitation partners				1.03***		1.03***
If R has ever been married				2.51***		2.65***
Socioeconomic factors						
Highest degree R ever earned					0.92***	0.94***
If R ever worked at all					1.01	0.92
N	11722	11694	10571	10801	11694	9751
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Sources: derived from NSFG Cycle6, 2002-2003.

Note: R refers to respondent. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

Table 4. Odds Ratios of Religion Affiliation When Raised up, Religiosity and CEB: U.S., 2002-2003

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Religious variables						
Religion Raised up (ref. = Catholic)						
None	0.99	0.98	0.99	0.99	0.99	1.00
Fundamental Protestant	0.97	1.11**	1.06	1.05	1.08*	1.00
Other Protestant	0.88**	1.02	1.06	1.02	1.04	1.06
Other non-Christian religion	0.86	0.99	1.05	1.04	1.01	1.08
Religiosity (ref. = very imp.)						
Some important	0.76***	0.88***	0.89***	0.87***	0.89***	0.88***
Not important	0.59***	0.74***	0.73***	0.75***	0.74***	0.75***
Demographic factors						
Age		1.08***	1.08***	1.05***	1.08***	1.05***
Gender (ref. = female)		0.87***	0.88***	0.81***	0.86***	0.83***
Race (ref. group = non-Hispanic white)						
Hispanic		1.49***	1.29***	1.48***	1.34***	1.27***
Non-Hispanic black		1.12**	1.08*	1.22***	1.09*	1.22***
Non-Hispanic other		1.17	1.09	1.28**	1.20*	1.23
Nativity (ref. group = native born)						
Foreign born		0.96	0.92	0.98	0.92	0.90
Parental influence						
Highest degree female parent earned			1.00			1.00
Highest degree male parent earned			0.92***			0.97*
Number of children born to female parent			1.06***			1.04***
If R lived on own before age 18			1.32***			1.16***
History of sexual life, cohabitation and marriage						
R's age at 1st sex				0.95***		0.96***
Number of lifetime partners				0.99		1.00
Number of cohabitation partners				1.03**		1.03**
If R has ever been married				2.33***		1.27***
Socioeconomic factors						
Highest degree R ever earned					0.93***	0.95***
If R ever worked at all					0.99	0.88
N	9747	9722	8855	8918	9722	8114
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Sources: derived from NSFG Cycle6, 2002-2003.

Note: R refers to respondent. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

Table 5. Odds Ratios of Current Religion Affiliation, Religiosity and CEB: U.S., 2002-2003

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Religious variables						
Current religious affiliation (ref. = Catholic)						
None	0.99	0.98	0.99	0.99	0.98	0.99
Fundamental Protestant	1.01	1.17***	1.10**	1.08	1.12**	1.01
Other Protestant	0.94	1.05	1.08	1.01	1.06	1.02
Other non-Christian religion	0.77**	0.89	0.92	0.90	0.94	0.94
Religiosity (ref. = very imp.)						
Some important	0.76***	0.90***	0.90***	0.88***	0.90***	0.89***
Not important	0.61***	0.76***	0.75***	0.76***	0.76***	0.76***
Demographic factors						
Age		1.08***	1.08***	1.05***	1.08***	1.05***
Gender (ref. = female)		0.87***	0.88***	0.82***	0.87***	0.83***
Race (ref. group = non-Hispanic white)						
Hispanic		1.49***	1.29***	1.45***	1.35***	1.25***
Non-Hispanic black		1.11**	1.07	1.21***	1.08*	1.21***
Non-Hispanic other		1.20	1.11	1.31**	1.21*	1.26*
Nativity (ref. group = native born)						
Foreign born		0.98	0.94	1.00	0.94	0.92
Parental influence						
Highest degree female parent earned			1.00			1.00
Highest degree male parent earned			0.92***			0.97
Number of children born to female parent			1.06***			1.04***
If R lived on own before age 18			1.31***			1.16**
History of sexual life, cohabitation and marriage						
R's age at 1st sex				0.95***		0.97***
Number of lifetime partners				0.99		1.00
Number of cohabitation partners				1.03**		1.03**
If R has ever been married				2.32***		2.45***
Socioeconomic factors						
Highest degree R ever earned					0.93***	0.95***
If R ever worked at all					0.99	0.88
N	9744	9719	8853	8914	9719	8111
Prob > F	0.0001	0.5539	0.0000	0.0000	0.0000	0.0000

Sources: derived from NSFG Cycle6, 2002-2003.

Note: R refers to respondent. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

Table 6. Odds Ratios of Religion Affiliation When Raised up, Religiosity and CEB: U.S., 2002-2003

Variables	Pooled Data (1)	Baseline (2)	Gender Effect (3)	Female Data (4)	Male Data (5)
Religious variables					
Religion Raised up (ref. = Catholic)					
None	1.00	0.78**	1.14	0.78**	0.91
Fundamental Protestant	1.00	0.99	0.98	0.99	0.96
Other Protestant	1.06	0.99	1.10	0.99	1.08
Other non-Christian religion	1.08	1.07	2.53	1.07	2.28
Religiosity (ref. = very imp.)					
Some important	0.88***	0.87***	1.01	0.87***	0.90
Not important	0.75***	0.67***	1.15	0.67***	0.79**
Demographic factors					
Age	1.05***	1.05***	1.01	1.05***	1.06***
Gender (ref. = female)	0.83***	-	0.37*	-	-
Race (ref. group = non-Hispanic white)					
Hispanic	1.27***	1.18***	1.12	1.18***	1.32*
Non-Hispanic black	1.22***	1.23***	0.91	1.23***	1.15*
Non-Hispanic other	1.23	1.05	1.30	1.05	1.40
Nativity (ref. group = native born)					
Foreign born	0.90	0.90*	1.02	0.90*	0.91
Parental influence					
Highest degree female parent earned	1.00	1.00	1.00	1.00	1.00*
Highest degree male parent earned	0.97*	0.98	0.97	0.98	0.95
Number of children born to female parent	1.04***	1.05***	0.98	1.05***	1.03
If R lived on own before age 18	1.16***	1.18***	0.92	1.18***	1.11
History of sexual life, cohabitation and marriage					
R's age at 1st sex	0.96***	0.96***	0.99	0.96***	0.96***
Number of lifetime partners	1.00	0.99*	0.97*	0.99*	0.98
Number of cohabitation partners	1.03**	1.10***	0.89**	1.10***	1.03**
If R has ever been married	1.27***	2.07***	1.55***	2.07***	3.15***
Socioeconomic factors					
Highest degree R ever earned	0.95***	0.95***	1.00	0.95***	0.95***
If R ever worked at all	0.88	0.82**	1.82*	0.82**	1.52
N	8114			5186	2928
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000

Sources: derived from NSFG Cycle6, 2002-2003.

Note: R refers to respondent. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

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