Be fruitful and multiply: Changing family formation behavior and the role of religion, religiosity and ethnicity.

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Petra Nahmias

Department of Sociology and Office of Population Research

Wallace Hall

Princeton University

Princeton, NJ 08544

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Abstract

The concepts of religion and ethnicity are changing over time, as is family formation behavior in terms of the number of children, the timing of childbirth, and entry into marriage. This paper explores the interlocking roles that religion, religiosity and ethnicity play in the fertility and nuptial decisions of individuals, and how that role has changed over time. Using unique data from the Houston Area Study from 1983-2006, a region that has undergone profound demographic changes over the last decades, the observed relationships are explored in order to elucidate the mechanisms through which religion, religiosity and ethnicity combine to influence socio-demographic behavior. The results show that ethnicity clearly continues to define fertility behavior, with Blacks and Hispanics displaying elevated fertility compared with Whites. Hispanics are also displaying a relative propensity to marriage while Blacks exhibit the opposite effect. Religion, on the other hand, especially Catholicism, is having a declining effect on both fertility and marriage. However, the effect of religion and religiosity on demographic behavior differs according to ethnicity. The effect of a certain religious affiliation and level of religiosity has a varying effect on fertility and marriage for Blacks, Hispanics and Whites indicating the importance of the cultural context within which these traits operate.

Introduction

The aim of this paper is to explore the changing demographic behavior of Houston residents by religion, religiosity and ethnicity. We already know that Houston is changing in terms of its socio-demographic make-up; we also know that the concepts of religion and ethnicity are changing. However, are the relationships between demographic characteristics, fertility and marriage also changing over time? Are people of the same religion, religiosity and ethnicity still having children and marrying in the same way? As Lehrer (2004) points out, religion has widespread effects on the demographic behavior of individuals and families. This study explores the interlocking roles that religion, religiosity and ethnicity play in the fertility and marriage decisions of individuals, and how that role has changed over time. Religious fundamentalism, for example that practiced by evangelical Christians, is associated with elevated and changing fertility (Goodson, 1997; Brewster et al., 1998) and these demographics may influence the future of religious fundamentalist groups (Hout et al., 2001), thus it will be interesting to look at these groups in particular, given their increasing social and political influence.

This study seeks to explain the observed relationships in order to elucidate the mechanisms by which religion, religiosity and ethnicity are operating to influence socio-demographic behavior. Is this solely a function of other correlated variables such as socioeconomic status or does this have an independent effect? Understanding these mechanisms enables us to understand better both how people make decisions about family formation, and also the changing importance of religion in everyday life. In addition to the practical and policy implications, this study is relevant to theories of fertility change, which waver between the relative importance of structural factors and cultural ones.

The South is a particularly appealing area to study changes in family formation. From 1941 to 1970, Southern Whites bucked the baby-boom trend and showed decreasing fertility,

whereas Southern Blacks participated fully in the baby-boom (Sell and Kunitz, 1997). Historically, religion and ethnicity have also been important determinants of fertility in Texas (Gutmann and Fliess, 1993). Further, in recent years, the Hispanic population of the South has been increasing. Given their higher fertility (Oropesa and Landale, 2004), it is likely that they will have an increasing impact on demographic change in the South. It will be interesting to see if these religious and ethnic differentials have persisted during the second demographic transition. Finally, the South – especially in large metropolitan centers like Houston and Atlanta –has undergone an extraordinary transformation, which inevitably changed the demography of the region. Houston has gone from being a bi-racial Southern city controlled by White males to one of the most culturally diverse metropolitan areas in the United States, where all of its ethnic communities are now "minorities" (Klineberg, 1995). While Houston may not be typically "South", it is the largest city in the South and thus has a substantial impact on the social, economic and demographic make-up of the South, as well as being one of the major engines behind its rejuvenation.

Fertility change

One explanation of fertility change is that of adaptation, whereby households and individuals adapt their fertility levels to those required by changing socioeconomic conditions, with households playing the major role in determining fertility levels (Becker 1960; Becker & Barro, 1988). However, micro-economic explanations are lacking, as they fail to explain why a fertility transition can occur simultaneously among all socioeconomic strata of society (McDonald, 1993). The second main approach is that of diffusion within cultural boundaries. Fertility limitation is initially adopted by an elite group, and this behavior spreads throughout a population sharing a common language and culture. Some researchers have found that cultural factors are focal, which is the main basis of the ideational/diffusion

theory (Cleland & Wilson, 1987). The role of social norms in governing fertility decline has also been found to be central (Blake, 1968; Lesthaeghe, 1983). However, despite all the theories governing fertility change, why people in developed countries continue to have children is still a conundrum. As Schoen et al. (1997) put it, why do Americans even want children? Part of the answer may lie in the sociocultural norms that guide our every day life - these are conceivably influenced by ethnicity, religion and religiosity. However, even within the more narrow literature examining religion and demographic behavior, there is controversy over the manner in which religion could exert itself, with researchers such as Calvin Goldscheider emphasizing socioeconomic causes, and Kevin McQuillan emphasizing ideational diffusion (Goldscheider, 1999; McQuillan, 1999).

Ethnic and religious differences in family formation

Although some early work comparing Protestants and Catholics showed convergence (Westoff and Jones, 1979), Mosher et al. (1992) in their work on post baby-boom fertility in the 1980s, found that Mormons and religious Protestants had particularly high fertility, in contrast to the lower fertility of Jews and those with no religion. Similar results were found by Heaton and Goodman (1985). Religiosity is also linked to different attitudes to family formation, with those who are more religious tending to higher fertility or supporting affiliated attitudes and values (Ellison and Goodson, 1997; Mosher and Hendershot, 1984; Thornton, 1979; Heaton and Goodman, 1990). Both religion of orientation and current religious affiliation are significant predictors of fertility, and operate additively (Janssen and Hauser, 1981). Further, even with similar levels of fertility, contraceptive use differs according to religion and is changing over time (Goldscheider and Mosher, 1988; Goldscheider and Mosher, 1991). Different ethnicities and religiosities also differ in their

attitudes and expectations about the timing of marriage, family size and family formation behavior (Goldscheider and Goldscheider, 1988).

Of course, religion does not operate independently of the cultural context in which it is located. For example, Jews in the United States have below replacement fertility, whereas in Israel, Jews have fertility way above replacement. In a similar manner, while pronatalism is a theme common to Mormonism, its expression changes with the cultural context and its interaction with the local culture (Heaton, 1989). Likewise, each religion and its adherents will react differently to the socioeconomic and demographic changes occurring in the US as a whole, and in the Houston area in particular, since the 1980s.

While the topic of religion and fertility has been well explored in the literature, there are still some gaps in the body of knowledge that this paper seeks to address. Firstly, there is little work comparing the demographic behavior of Anglo and Hispanic Catholics. Secondly, the impact of religious preferences on marriage for people facing a squeeze in the marriage market, such as Black women, is still poorly understood. Finally, this paper looks at the interactions between religion, ethnicity and religiosity and how these relationships change over the time within the same metropolitan area.

Reasons for differentials

The fertility and marriage behavior of ethnic and religious groups could be influenced by both structural and cultural determinants. Religion, religiosity and ethnicity cannot be equated with culture; they are just one element in culture and vice versa. Religious and ethnic groups differ in their structural assimilation. They have different levels of socioeconomic development, including education; employment opportunities; occupational structure; mortality levels; and housing. Liberal Protestants and Jews are at the top of the socioeconomic scale, and Black Protestants and conservative Protestants at the bottom, although these

differences are declining (Pyle, 2006). All of these factors are known to affect fertility and marriage. If this is the case, then controlling for socioeconomic determinants should render insignificant any differences in family formation behavior.

Culture is a concept that is notoriously difficult to even define, let alone analyze. However, culture in all its forms inevitably impacts upon demographic behavior. Indeed, the very focus of this paper is on ethnicity, religiosity and religion which are themselves strong cultural identifiers. However, using Hammel's distinction, I view culture here as "motivational demography" rather than "institutional demography" (Hammel, 1990). In other words, to begin with I assume that culture is having a causal effect on fertility behavior, and that people are behaving rationally within their own cultural frameworks and beliefs. Given the lack of an economic incentive to have children, it is also likely that culture is working through the social value placed on children. Schoen et al. (1997) found compelling evidence for the hypothesis that people for whom children have a strong social value have higher fertility. Therefore, where cultural forces lead to a higher social value for children or a higher social value on being married, then it is likely that people will tend to have more children, and to get married and remain married. Based on McQuillan (2004), these cultural determinants can be divided into variables that directly influence fertility through the proximate determinants, and broader values and principals.

However, religious and ethnic groups also differ in their sociocultural characteristics. Undoubtedly, in any society, sexual and reproductive behavior is socially prescribed. As well as broad social values directly determining reproductive preferences, other factors that can directly influence fertility and are culturally shaped are, for example, sexual promiscuity and coital frequency, age at first union, breastfeeding, and types of contraception used (Bouvier, 1972; Goldscheider and Mosher, 1988; Mosher and Goldscheider, 1984). If religion and ethnicity, in and of themselves, are important factors it would be expected that once

socioeconomic conditions are controlled for, differences in family formation by religious and ethnic group will still remain.

A potentially confounding factor for both religion and ethnicity is minority group status which may be important in determining demographic behavior, as originally proposed by Goldscheider & Uhlenberg (1969). The minority group seeks to improve their security, social mobility, or both through fertility behavior (Agadjanian, 2001). It is generally the case that minority groups have elevated fertility when compared with the same group in a majority position. (Knodel, et al 1999; Attane & Courbage, 2000; Basu, 1997; Courbage, 1992). Studies on Catholics in non Catholic countries show that their fertility is also elevated compared to other religions when the Catholics form a minority (van Heek, 1956; Mosher & Hendershot, 1984). Williams and Zimmer (1990) and Kennedy (1973) found local minority group status was important in determining fertility, but this effect could also operate at the state or national level. Given Houston's changing demographic, this is possibly an important effect and could explain changing family formation behavior.

Hypotheses

There are four hypotheses for explaining religious and ethnic differentials in fertility:

1) The socioeconomic or characteristics hypothesis. All of the variation in fertility and marriage is due to socioeconomic differences, and once these are controlled for then the observed differences will disappear.
2) Minority group hypothesis. The proportion a group represents at the local, state or national level will account for differences in family formation behavior.
3) The cultural or norms hypothesis. My third hypothesis is that there will be an association between the values shared by a certain group (shown by attitudinal or cultural indicators) and their demographic behavior, and this will account for the differences between ethnic

and religious groups. It is also expected that there will be a dose-response relationship with the level of religiosity which should indicate the level of affiliation to the religious group.

My final hypothesis denotes the interrelated nature of religion, religiosity and ethnicity:

4) There will be an interaction effect between religion, religiosity, ethnicity and family formation behavior. Increasing religiosity will have a differential effect depending on ethnicity and religion, and the effect of religion will differ by ethnicity. Further, the effect of ethnicity, religion and religiosity is likely to change over time, as the nature of all the social phenomena involved evolve and change.

Data and Methods

Data

The data were taken from the Houston Area Survey 1983-2006. The HAS has conducted random-digit-dialed interviews, in English and Spanish, with 24 successive representative samples of Harris County residents. No other city in America has been the focus of a long-term study of this scope, and none more clearly exemplifies the nation's ongoing economic and demographic transformations (Klineberg, 2005). Although surveys using national level data such as the General Social Survey are available, the HAS is unique and an appropriate data source for addressing the research questions for a number of reasons. Firstly, it is an annual survey and thus provides a temporal continuity of data; the GSS, for example, has only been conducted biennially since 1994 (with no survey conducted in 1992). Secondly, the HAS is conducted in both English and Spanish. Given the emphasis of this paper on ethnicity and the increasing weight of the Hispanic population in the United States in general, and in the South in particular, this was a sizeable advantage to the HAS. Furthermore, since 1990 (with the exception of 1992 and 1996) the surveys have oversampled both African-Americans and

Hispanics. The response rates have decreased from around 75% in the 1980s to about 50% in the 1990s, a trend that has been witnessed in other surveys. On the other hand, the cooperation rate (the ratio of completed interviews to interviews plus refusals) has remained steady over time at around 65%. On the whole, the response and completion rates do not raise significant issues of data reliability.

Two dependent variables were used to capture fertility behavior. These are number of children to reflect cumulative fertility through children ever born and the number of children under six to capture the timing of childbearing. Separate models were run for each dependent variable, with one analysis modeling children ever born, and the second analysis modeling young children. For the first model, the children ever born model, a Poisson regression model was used, and for the second, the young children model, a multinomial logistic regression. Poisson regression models and negative binomial models, including zero-inflated, were tested for the young children model but did not fit the data. Therefore, I decided to divide the variable into no young children, one young child and two or more young children, and use a multinomial logistic regression model. I restricted the data to people aged under 50. The third dependent variable was marital status. This was divided into currently married, never married and ever married, and was analyzed using multinomial logistic regression.

Variables were divided into substantive areas (control, ethnic group, religion, religiosity, socioeconomic status and cultural values) and added in blocks to separate models nested within models containing the controls in order to analyze the effect on the expected differentials. Finally, interactions were tested for. In the first instance, all two way interactions were tested and then the significant variables were selected for inclusion in the next model to test the three way interactions. Initially, I tested for a more inclusive model that included

variables that did not appear in every year. However, this greatly reduced the power of the sample while not significantly changing the coefficients of interest. I therefore decided to only use the more parsimonious all-year model. Table 1 displays the variables used in the analysis.

Results

Bivariate analysis

Table 2 shows the bivariate analysis results. The higher fertility of Blacks and Hispanics is apparent, although the elevated Black fertility is not seen for young children. Blacks are a larger proportion of ever and especially never married whereas Hispanics are much less likely to be ever married. Protestants are also more likely to have higher fertility and to also be ever married. Finally, secularists are less likely to have children and more likely to be single, although the fundamentalists are more likely to be ever married.

Multivariate analysis – children ever born

Table 3 presents the results for children ever born. Blacks and Hispanics displayed elevated fertility compared with Anglos in the analysis with just demographic controls. There was some evidence of an SES effect for Blacks and Hispanics, although fertility still remained significantly higher than for Whites. Neither Hispanics nor Blacks provided any evidence for the minority status hypothesis. Catholics consistently displayed higher fertility with people professing no religion having significantly lower fertility. The coefficients in this case remained stable across all models, providing no evidence for any of the hypotheses apart from some partial evidence for fundamentalists.

Secularists have consistently lower fertility than progressives and fundamentalists. Again, the coefficients are stable and there is no evidence for any of the hypotheses. Although SES has almost no effect on differences between religions and levels of religiosity, all the

variables included are significant and in the expected direction, i.e. people of higher SES have lower fertility than those of lower SES. The party affiliation variables used to measure culture showed that Republicans have higher fertility compared to those of other political affiliations, and those who thought too little was spent on poverty had lower fertility indicating an association between liberal values and lower fertility.

Multivariate analysis – young children

The analysis for young children examined the number of children aged under 6 to people aged under 50 and is shown in Table 4. In this case, Blacks and Hispanics were both significantly more likely to have one young child that Whites, but less likely to have two or more. This would indicate that Whites are more likely to have closer birth intervals than Blacks or Hispanics, controlling for the number of children ever born. No significant effect was seen for either religion or religiosity when looking at one child versus no children. Surprisingly, fundamentalists were less likely than progressives to have two or more young children living at home. Again, this might indicate shorter birth intervals. Overall, the results do not provide evidence for any of the hypotheses. The changes in the coefficients across the models are minimal, which does not allow the null hypotheses to be rejected. The only difference of note is the change from an odds ratio of 1.27 for Blacks in the control model to 1.34 in the culture model, but they still have overlapping 95% confidence intervals. As seen for children ever born, people of lower SES tend to have higher fertility, although higher income people are more likely to have two or more children. Again, as for children ever born, Republicans tend to have higher fertility than other political affiliations.

Multivariate analysis – marital status

As expected from the raw data, Blacks were more likely than Whites to be non married – either ever married or never married. The results for the marital status analysis can be seen in Table 5. For ever married Blacks there is no evidence of a SES or minority group status effect, but there is some evidence of a cultural effect. For never married, there is some evidence for all three hypotheses with the coefficient reduced across models, however in each case a significant effect remains. Hispanics are less likely than Whites to be never married, but do not differ significantly with regards to ever married. For both marital statuses, the change in the Hispanic coefficient does not provide conclusive evidence for any of the hypotheses, if anything the changes are in the opposite direction. There are no significant differences by religion in the odds of being never married; however, Catholics are less likely to be ever married but there is little or no change in the coefficients across the models. Regarding religiosity, secularists are less likely to be currently married than both fundamentalists and religious progressives. There does not seem to be one direction for the SES effect. On the one hand, being more educated decreases the odds of being currently married while having a higher income increases the odds. Republicans are the most likely to be currently married, although the same is true for those who believe that too little is spent on combating poverty.

Multivariate analysis – interactions

The fourth hypothesis posited that ethnicity, religion and religiosity are interrelated and will influence one another. This hypothesis was tested by analyzing two way and three way interactions. Table 6 details the results of the two way interactions. For children ever born, being Black and Catholic reduces the elevated fertility of both Blacks and Catholics whereas being Black or Hispanic and no religion further increases fertility, and the effect of

Catholicism over time is decreasing. For young children, a similar effect is seen for being Black and having no religion. The three way interactions were tested for the variables included in the significant two way interactions, but none of them were significant.

In order to intuitively understand the implications of the three way interactions, the results are presented as predicted outcomes of an average person of varying ethnicity, religiosity and religion and in different years. These results are shown in Figures 1-6.

Figure 1 displays the differences in children ever born by ethnicity, religiosity and religion. It is clear that Anglo or Hispanic Catholic fundamentalists have the highest fertility of all, and secular Anglos with no religion the lowest. This indicates that religion, ethnicity and religiosity do indeed interact together to influence fertility. This effect is less marked for young children (Figure 2), although this is partly because the confidence intervals are much wider. The results of young children do not mirror those of children ever born. In this case, Anglo secular Catholics have the greatest number of young children and Black fundamental Catholics the least. This shows that the number of young children is not just a function of the ultimate completed fertility of the family, but also decisions regarding the tempo and timing of family formation.

Figures 3 to 5 present the results of the analysis of marital status. Figure 3 shows that Anglo fundamentalists of all religions are the most likely to be currently married. The figure also shows that religion has a greater effect on the probability of a Black being currently married than for a White or a Hispanic, although for nearly every group the probability of a Black being currently married is lower than for any White or Hispanic groups. Among the Hispanics, secularists are the least likely to marry with there being no significant differences

across religious groups whereas Hispanic fundamentalist Catholics are more likely to be currently married than Hispanic fundamentalists of other religions.

The predicted probability of being ever married is shown in Figure 4. Again, Blacks show the widest variation between religions and religiosities, with Black fundamentalists of other religions having the highest probability of being married of all ethnicities, religions and religiosities. Anglo protestant fundamentalists have the lowest probability of all groups of being never married – less than 10%, as shown in Figure 5.

There are also changes over time in the relationships between religion, ethnicity and religiosity and fertility. Due to the relatively small sample size, there are wide fluctuations in some of the groups which sometimes disguise the underlying trends. Nonetheless, in Figure 6 it can be seen that overall there has been a small increase in the number of children ever born over the last 25 years. However, Anglo Catholics have witnessed the greatest increase, whereas Black Protestants and Catholics have not seen much change during the same time period.

Discussion

As in the rest of the United States, ethnicity clearly defines fertility and family forming behavior in Houston. The ethnic effect on demographic behavior shows no sign of disappearing and remains even after various factors know to be associated with ethnicity were controlled for. This is especially true for Hispanics, whereas the Black differentials were more likely to be accounted for, in full or partially, by SES, minority group status or culture.

The lack of supporting evidence for any effect of SES, minority group status and culture on the lower fertility of secularists was surprising given that we know that there are differences in SES and attitudes between conservative and liberal Protestants (Lehrer, 2004).

However, there is also evidence that the more evangelical and fundamentalist wings of religions, particularly Protestantism, place a much greater emphasis on the primacy and centrality of marriage (Xu et al., 2005). Therefore, it is likely that the religious doctrine influences demographic behavior independent of any correlation with SES, minority group status and cultural or political attitudes.

Increasingly, the results show that Blacks are less likely than Whites to marry, even after including all the explanatory variables. Part of this may be due to the changing marriage market in Houston and the undersupply of employed African American men – a phenomenon noted by Harknett and McLanahan (2004) in other US cities. The decline in blue collar work and its replacement with unskilled service industry work with few opportunities for promotion and minimum wage salaries has affected Houston as it has other areas. Although the analysis partially controlled for this by including work status in the SES hypothesis and income group, it did not include the type of work or payments in kind. Therefore, while a man may be earning enough to be above the poverty line while single, he has few or no benefits and little job security, and is not considered appropriate marriage material. As Edin and Kefalas discuss in their ethnographic work, people of lower SES hold marriage in high esteem and while women may be prepared to conceive a child with a man who does not meet their expectations, they do not feel the same way about marriage (Edin and Kefalas, 2005). This is especially true of black women among whom non-marital childbearing is more normative than among other ethnicities, and for whom a female support structure exists to buffer them against the extreme challenges of extra-marital childrearing (Stack, 1974).

If indeed the relative economic position of Blacks in the labor market is a driving force leading to a retreat from marriage, why does this effect not appear among Hispanics? Indeed, Hispanics are more likely than Whites to be currently married, with the chances of

them being ever married remaining low even after including all the explanatory variables.It must be noted that the effect of Hispanicity on the chances of being ever married are decreasing over time, as suggested by Oropesa and Landale (2004). This may be attributable to assimilation of Hispanics over time, with Hispanicity as an identifier having a different meaning for second and third generation Hispanics. However, in Houston, the proportion of US born Hispanics decreased from 53% in 1994 to 44% in 2005 which would indicate a less assimilated community. Another possible reason is that Hispanic is a very wide ranging label and covers a wide range of cultures and origins, for example, in 2002, Hispanics in Houston reported originating from seven different countries as diverse as Argentina and El Salvador. While Mexicans are the majority, nearly a third originated from other countries. Any change in the composition of Houston's Hispanic population, either due to domestic or international migration, will inevitably impact upon their aggregate socio-demographic behavior.

Interestingly, Blacks with no religion and fundamentalist Blacks were the most likely not to be married. Blacks with no religion are probably different to Whites with no religion, given the importance of religion in the Black community – although even 40% of Blacks with no religion reported praying every day (Taylor, 1988)! While having no religious affiliation is compatible with rejecting or delaying marriage, religious fundamentalism is not. Perhaps, extending Edin and Kefalas' hypothesis, those Blacks (especially women) who adhere to fundamentalist religious tenets are likely to hold marriage in even greater esteem and apt to be even more demanding in the criteria that they expect of a future spouse, thus reducing the pool of potential partners on the marriage market, given the prevailing economic and social conditions. It would also explain the apparent contradiction that Anglo fundamentalists are the most likely to be married out of all the groups. While their high regard for marriage matches

that of Black fundamentalists, they are simply more able to find an appropriate marriage partner than Blacks.

The second hypothesis examined the relationship between minority group status and fertility originally promulgated by Goldscheider and Uhlenberg (1969). No conclusive evidence was found for minority group status for any of the groups and any of the demographic outcomes. As Hallis (1989) points out, Goldscheider and Uhlenberg's minority group status hypothesis did not preclude the possibility that minority group status could lead to decreased as well as elevated fertility, depending upon the conditions of each group and the rationality of specific fertility behavior for that group.

The third hypothesis examined the cultural effect of belonging to a certain group. There was very little evidence of this, with the exception of a partial effect on the probability of being married for Blacks. However, my operationalization of culture in this analysis was restricted by the framework of the study and admittedly only captures weakly the concept of culture. In effect, culture and political liberalism are almost synonymous in this study. Indeed, the very fact that it has any effect at all points to a potentially much wider cultural effect. The idea of culture fits neatly within ideational theories of fertility decline, since within culturally homogenous groupings the spread of demographic behavior through social interactions is more easily facilitated. As a result, I believe that many of the remaining differentials in the final model are actually due to cultural differences that are not fully captured by the model. This is speculative however, and would require further work with data that are able to describe better the concepts being studied, ideally measuring normative beliefs regarding marriage, childbearing and family. Further, the expected dose-response relationship between level of religiosity and the outcomes was not seen.

The fourth hypothesis posited that religion, religiosity and ethnicity would interact together and influence the outcome variable. Intuitively, a person who professes a deeper

affiliation to a particular religion will adhere more strictly to it edicts. Further, religion and religiosity may have different meaning and implications for different ethnicities. The results pointed to the declining effect of Catholicism on family formation behavior since 1983. This fits in with the existing literature that has also found assimilation of American Catholics in terms of their demographic behavior. More and more, Catholics are becoming similar to mainstream Protestants (Lehrer, 2004; Lehrer, 1996). Further, Xu et al. (2005) point to the convergence between Catholics and mainstream Protestantism regarding nuptial behavior. While the Catholic Church is still extremely pro-nuptial, young American Catholics are similar to their Protestant compatriots in preferring individual autonomy in family formation decisions and the accumulation of human capital prior to establishing a family. This finding of the decreasing importance of church teachings for Catholics (which themselves have remained strongly against abortion, contraception and divorce) also fits in well with the fact that many Catholic countries have particularly low fertility and marriage rates, such as Italy and Spain with total fertility rates of 1.3, although Adsera (2006) noted in Spain that active Catholics, while decreasing in number, continue to have higher fertility.

The same phenomenon is seen in the US with the literature pointing to an increasing polarization of fertility behavior among US Catholics, with those practicing Catholicism as indicated by church and communion attendance, continuing to have elevated fertility (Mosher and Hendershot, 1994; Sander 1992; Williams and Zimmer, 1990). However, when the behavior of Catholics by religiosity is examined according to ethnicity, a different picture unfolds. For both Anglos and Hispanics, fundamentalist Catholics have the highest fertility (children ever born), followed by progressive Catholics, and secular Catholics have the lowest fertility of all. Interestingly, the elevated fertility of Hispanics vis-à-vis Anglos is not

witnessed for fundamentalist Catholics but continues for progressive and secular Catholics. Black fundamentalist and progressive Catholics do not differ significantly from one another in their fertility behavior, although both have higher fertility than secularists. Furthermore, Black fundamentalist fertility is significantly less than their Hispanic and Anglo counterparts indicating that Catholicism is having a different effect on Blacks than on Hispanics and Anglos.

The differing effect of religion and religiosity on Black demographic behavior is perhaps not surprising given the different ethos of the Black church compared with the White church, as shown by Patillo-McCoy (1998) who found that the Black church place a greater emphasis on collectivity and communality. This effect may have seeped into Blacks of other religions as well. Thus, even Blacks with no religion, for example, are influenced by the culture of the Black church and having no religious affiliation affects their behavior in a different way to that of Whites. Further, religious solidarity is likely to be stronger among communities facing ethnic discrimination (McQuillan, 2004) – another reason for the ethnic differences in the effect of religion.

Concluding remarks

Out of the first three possible explanations for differentials in fertility behavior, it would appear that socioeconomic status is the most significant explanation. However, significant differences between groups in demographic outcomes still remained in the vast majority of cases, even when socioeconomic status was controlled for. On the other hand, much of the remaining differential in the culture analysis is probably due to the restrictive nature of the indicators used, as suggested by the available literature. Additionally, untangling

culture and quantifying it as a measurable variable is an extremely challenging task that is not suited to the limited nature of the available questions.

This paper indicates that ethnicity, religion and religiosity do indeed interact together to produce differing demographic outcomes. However, the results do show that there is not an "end of the religious factors" in determining fertility differences as stated by Goldschider and Mosher (1991), rather the relationship of religion with religiosity and ethnicity is changing over time and these three factors interact with one another. These linkages need to be considered in any study relating any one of these factors with fertility and family formation behavior.

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Table 1: Variables used in analysis

Group	Variables	Categories	Years	Comments
Ethnicity	Ethnic group	Anglo Black Hispanic Other	1983-2006	
Religion	Religious group	Protestant Catholic Other None	1983-2006	
	Religiosity	Fundamentalist Religious progressive Secularist	1983-2006	Imputed variable based on answers to questions on feelings about the bible and importance of religion in life
Controls	Age	Continuous	1983-2006	
	Gender	Male/female	1983-2006	
	Marital status	Currently married Never married Ever married	1983-2006	
	Work status	Working Not working Student Homemaker	1983-1997, 1999-2006	
	Year of survey	Continuous	1983-2006	
SES	Education	Less than high school High school Some college BA Graduate school	1983-2006	
	Income	3 equal groups	1983-2006	Household incomes divided into thirds for each year
Cultural	Political leanings	Democrat Republican Independent Other	1983-2006	
	Spending on poverty	Too little About right Too much	1983-2006	

Table 2: Results of bivariate analysis

		Young children			Children ever born			
		0	1	2+	0	1	2	3+
Ethnicity	Anglo	0.43	0.32	0.39	0.41	0.39	0.46	0.39
	Black	0.22	0.17	0.14	0.25	0.30	0.23	0.27
	Hispanic	0.27	0.42	0.40	0.24	0.24	0.23	0.28
	Other	0.08	0.09	0.06	0.10	0.07	0.07	0.06
	Total	1	1	1	1	1	1	1
Religion	Protestant	0.47	0.38	0.40	0.44	0.51	0.53	0.50
	Catholic	0.32	0.42	0.41	0.30	0.29	0.28	0.33
	No religion	0.11	0.12	0.09	0.13	0.09	0.07	0.05
	Other	0.09	0.09	0.09	0.13	0.12	0.13	0.12
	Total	1	1	1	1	1	1	1
Religiosity	Fundamentalist	0.37	0.37	0.37	0.31	0.38	0.39	0.45
	Progressive	0.34	0.35	0.37	0.30	0.34	0.36	0.37
	Secular	0.29	0.28	0.26	0.39	0.28	0.26	0.18
	Total	1	1	1	1	1	1	1

Table 3: Children ever born, Poisson regression results (coefficients and significance)

		Controls	SES	MG	Culture
Age		0.08***	0.08***	0.07***	0.08***
Age squared (*100)		-0.06***	-0.07***	-0.06***	-0.06***
Female		0.09***	0.04***	0.08***	0.09***
Marital status	Ever married	-0.19***	-0.18***	-0.19***	-0.18***
(currently married)	Never married	0.32***	-1.29***	-1.32***	-1.32***
Year (*100)		-0.19**	0.15*	-0.20*	-0..20**
Ethnic group	Black	0.20***	0.16***	0.25***	0.22***
(White)	Hispanic	0.30***	0.17***	0.35***	0.31***
	Other	-0.02	-0.03	0.05	-0.02
Religion	Catholic	0.05***	0.04***	0.05***	0.05***
(Protestant)	Other	-0.05***	0.04**	0.04***	0.05***
	None	-0.08**	-0.08***	-0.08***	-0.08**
Religiosity	Fundamentalist	0.05***	0.02**	0.05***	0.05***
(progressive)	Secularist	-0.15***	-0.13***	-0.15***	-0.15***
Work status	No work		0.03**		
(working)	Home-maker		0.17***		
	School		-0.13***		
Education (high	No high school		0.11***		
school)	Higher education		-0.12***		
Income (middle)	Low		0.07***		
	High		-0.02		
Proportion of population				0.12	
Party (Republican)	Democrat				-0.04***
	Other				-0.02
Poverty spending	Too little				-0.03***
(just right)	Too much				-0.02
- Log likelihood (d of f)		37,243 (14)	36,931 (21)	37,084 (15)	37,233 (18)
N			24,348		

* p < 0.1. ** p < 0.05, *** p < 0.01

Table 4: Young children, multinomial regression results (0 children = omitted category), exponentiated coefficients

		Controls		SES		MG		Culture	
		1 child	2+ children	1 child	2+ children	1 child	2+ children	1 child	2+ children
Age		1.18***	1.18***	1.15***	1.13***	1.18***	1.18***	1.18***	1.18***
Age squared		1.00***	0.99***	1.00***	0.99***	1.00***	0.99***	1.00***	0.99***
Female		0.87***	0.81***	0.79***	0.64***	0.87***	0.81***	0.87***	0.81***
Children ever born		1.76***	3.20***	1.73***	3.25***	1.76***	3.20***	1.76***	3.20***
Marital status	Ever married	0.42***	0.22***	0.43***	0.24***	0.42***	0.22***	0.42***	0.23***
	Never married	0.17***	0.13***	0.17***	0.14***	0.17***	0.13***	0.17***	0.13***
Year		1.02***	1.02***	1.02***	1.03***	1.02***	1.02***	1.02***	1.02***
Ethnic group	Black	1.27***	0.72***	1.28***	0.78***	1.19	0.62*	1.34***	0.81**
(White)	Hispanic	1.29**	0.85*	1.20**	0.93	1.21	0.74	1.30***	0.87
	Other	1.28***	0.96	1.27***	0.96	1.18	0.79	1.28***	0.97
Religion	Catholic	1.06	0.98	1.05	0.99	1.06	0.98	1.07	0.99
(Protestant)	None	0.90	0.83	0.90	0.85	0.90	0.83	0.91	0.84
	Other	1.07	0.89	1.06	0.88	1.07	0.88	1.07	0.88
Religiosity	Fundamentalist	0.95	0.81***	0.94	0.80***	0.95	0.81***	0.95	0.80***
(progressive)	Secularist	1.02	0.85*	1.03	0.86*	1.02	0.85*	1.02	0.86*
Work status	No work			0.86	0.92				
(working)	Home-maker			1.55***	2.30***				
	School			0.59***	0.48***				
Education (high	No high school			1.23***	1.00				
school)	Higher education			1.24***	1.62***				
Income (middle)	Low			1.24***	1.48***				
	High			0.97	1.19**				
Proportion of population						0.86	0.71		
Party (Republican)	Democrat							0.91	0.77***
	Other							0.95	0.87*
Poverty spending	Too little							0.96	0.97
(just right)	Too much							0.95	0.90
- Log likelihood (d of f)		10803 (30)		10682 (44)		10803 (32)		10797 (38)	
N		23556							

* p < 0.1. ** p < 0.05, *** p < 0.01

Table 5: Marital status, exponentiated coefficients (odds ratios) and significance

		Controls		SES		MG		Culture	
Ref: Currently married		Ever	Never	Ever	Never	Ever	Never	Ever	Never
Age		1.00	0.72***	1.03***	0.74***	1.00	0.72***	0.99	0.72***
Age squared (*1000)		1.45***	14.88***	1.03***	11.02***	1.43***	15.03***	1.48***	15.03***
Female		1.77***	0.70***	2.01***	0.84***	1.77***	0.70***	1.75***	0.69***
Year		0.99***	1.02***	1.01***	1.04***	0.99***	1.02***	0.99***	0.87***
Ethnic group	Black	2.46***	2.75***	2.46***	2.20***	2.46***	1.99***	2.16***	2.36***
(white)	Hispanic	0.97	0.70***	0.97	0.66***	0.97	0.52***	0.93	0.68***
	Other	0.58***	1.16*	0.58***	0.97	0.58***	0.77	0.58***	1.15*
Religion	Catholic	0.88***	0.91*	0.88***	0.91	0.88***	0.90*	0.87***	0.90*
(protestant)	Other	1.11*	0.98	1.11*	0.97	1.15**	0.98	1.09	0.98
	None	1.32***	1.26***	1.32***	1.26***	1.35***	1.26***	1.30***	1.25***
Religiosity	Fund.	1.05	0.85***	1.05	0.86***	1.04	0.86**	1.05	0.86***
(progressive)	Sec.	1.27***	1.39***	1.27***	1.40***	1.26***	1.39***	1.26***	1.38***
Work status	No work			0.91	1.01				
(working)	Home-maker			0.28***	0.18***				
	School			1.00	1.79***				
Education	No high			1.01	0.73***				
(high school)	school								
	Higher ed.			1.11**	1.30***				
Income	Low			2.14***	1.82***				
(middle)	High			0.36***	0.50***				
Proportion pop						1.31	0.48**		
Party	Democrat							1.23***	1.31***
(Republican)	Other							1.26***	1.14***
Poverty	Too little							1.17***	1.11**
spending (just	Too much							0.90	0.92
right)									
-2 log likelihood (d of f)		19073(24)		17986(38)		18675(26)		19027(32)	
N		24295		24295		23867		24295	

* p < 0.1. ** p < 0.05, *** p < 0.01

Table 6: 2 way interactions (exponentiated coefficients)

		Children ever born	Young children		Marital status	
			1	2+	Ever married	Never married
Age		1.09***	0.77***	0.71***	1.03***	0.74***
Age squared		1.00***	1.00***	1.00***	1.00	1.00***
Female		1.04***	0.60***	0.50***	2.01***	0.83***
Children ever born			0.95**	2.06***		
Marital status (currently married)	Ever married	0.83***	0.39***	0.23***		
	Never married	0.28***	0.59***	0.40***		
Year		1.00	1.03**	1.03*	1.00	1.03***
Ethnic group (White)	Black	1.20	2.44	0.99	0.69	0.64
	Hispanic	1.19	3.26*	1.48	0.19***	0.34*
	Other	0.95	3.03**	1.63	0.15***	0.47*
Religion (Protestant)	Catholic	1.16***	1.05	1.03	1.01	1.06
	Other	1.04**	1.20**	0.97	1.09	0.94
	None	0.83***	0.85	0.86	1.72***	1.44**
Religiosity (progressive)	Fundamentalist	1.02	1.06	1.06	0.81*	0.68***
	Secularist	0.92**	1.01	0.83	1.65***	1.33**
Work status (working)	No work	1.03*	0.89	1.01	0.90*	1.03
	Home-maker	1.18***	1.51***	2.22***	0.28**	0.18***
	School	0.89***	0.86	0.66**	1.02	1.82***
Education (high school)	No high school	1.11***	1.39***	1.09	1.02	0.74***
	Higher education	0.89***	1.52***	1.92***	1.11**	1.30***
Income (middle)	Low	1.08***	1.09	1.34***	2.13***	1.80***
	High	0.99	0.96	1.17*	0.36***	0.50***
Proportion of population (%)		1.04	3.45	1.85	0.26**	0.27*
Party (Republican)	Democrat	0.96***	0.90	0.79***	1.09*	1.18***
	Other	0.98	0.93	0.89	1.13***	1.08
Poverty spending (just right)	Too little	0.97**	0.94	0.97	1.14***	1.05
	Too much	0.99	0.94	0.88	0.94	0.93
Black*Catholic		0.92**	0.80	0.82	0.92	0.76*
Black*No religion		1.22**	0.50**	0.95	1.34	1.58**
Hispanic*Catholic		0.97	0.94	1.10	1.09	0.95
Hispanic *No religion		1.12**	0.69	0.84	0.98	1.28
Black*Fundamentalist		0.98	0.88	0.64	1.01	1.34**
Black*Secularist		1.03	0.78	0.95	0.87	0.99
Hispanic*Fundamentalist		0.95*	0.98*	0.94	1.15	1.27*
Hispanic *Secularist		0.99	0.80	1.00	1.05	0.96
Black*year		1.00	0.98	0.99	1.02**	1.03***
Hispanic*year		1.00	0.97	0.99	1.04**	1.01
Catholic*year		0.995**	1.01	1.01	0.99	0.99
No religion*year		1.00	1.02	1.00	0.98*	0.98
Fundamentalist*year		1.00	0.99	0.99	1.02	1.00
Secularist*year		1.00	1.00	1.01	0.99*	1.00
- Log likelihood (d of f)		36744 (40)	11287 (76)		17554(76)	
N		24252	10530		23867	

* p < 0.1. ** p < 0.05, *** p < 0.01

Figure 1: Predicted number of children ever born with confidence intervals by ethnicity, religion and religiosity

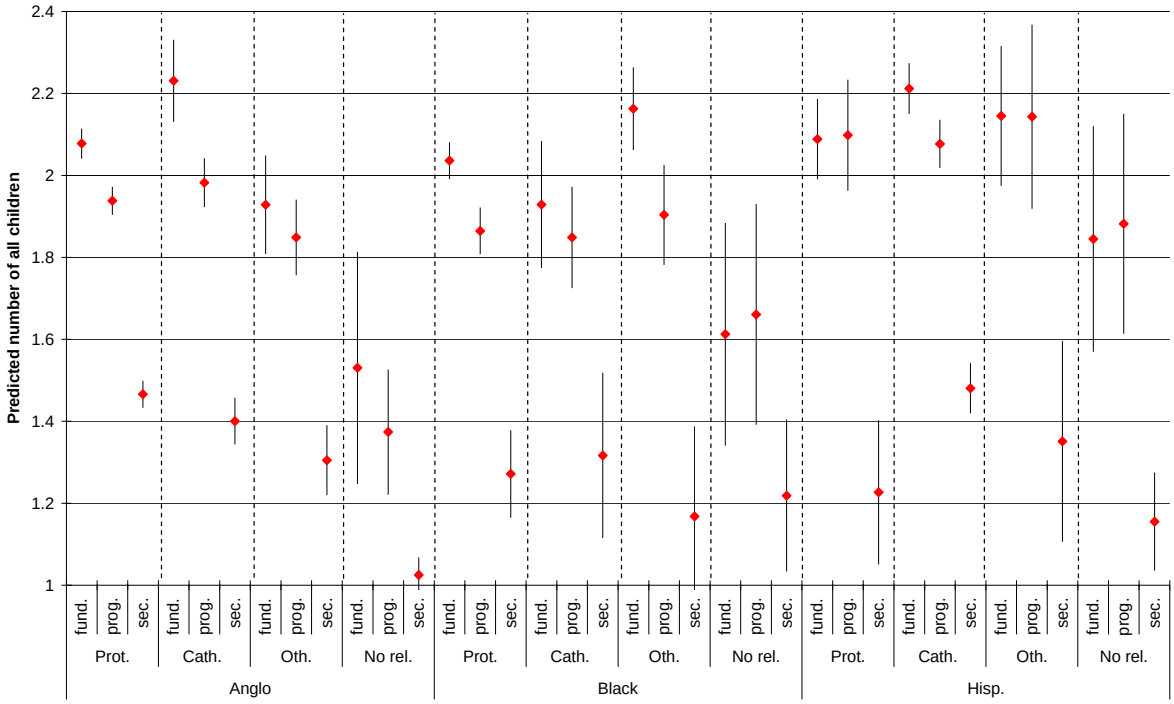

Figure 2: Predicted number of young children with confidence intervals by ethnicity, religion and religiosity

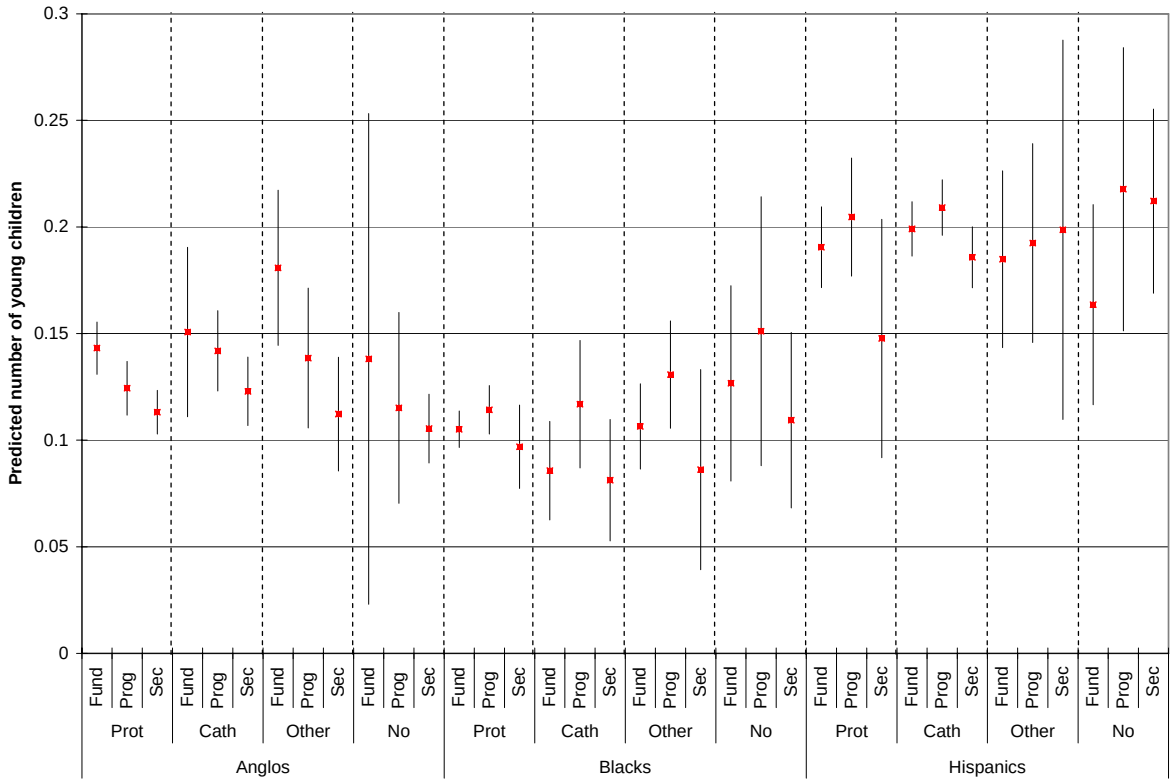

Figure 3: Predicted probability of being married with confidence intervals by ethnicity, religion and religiosity

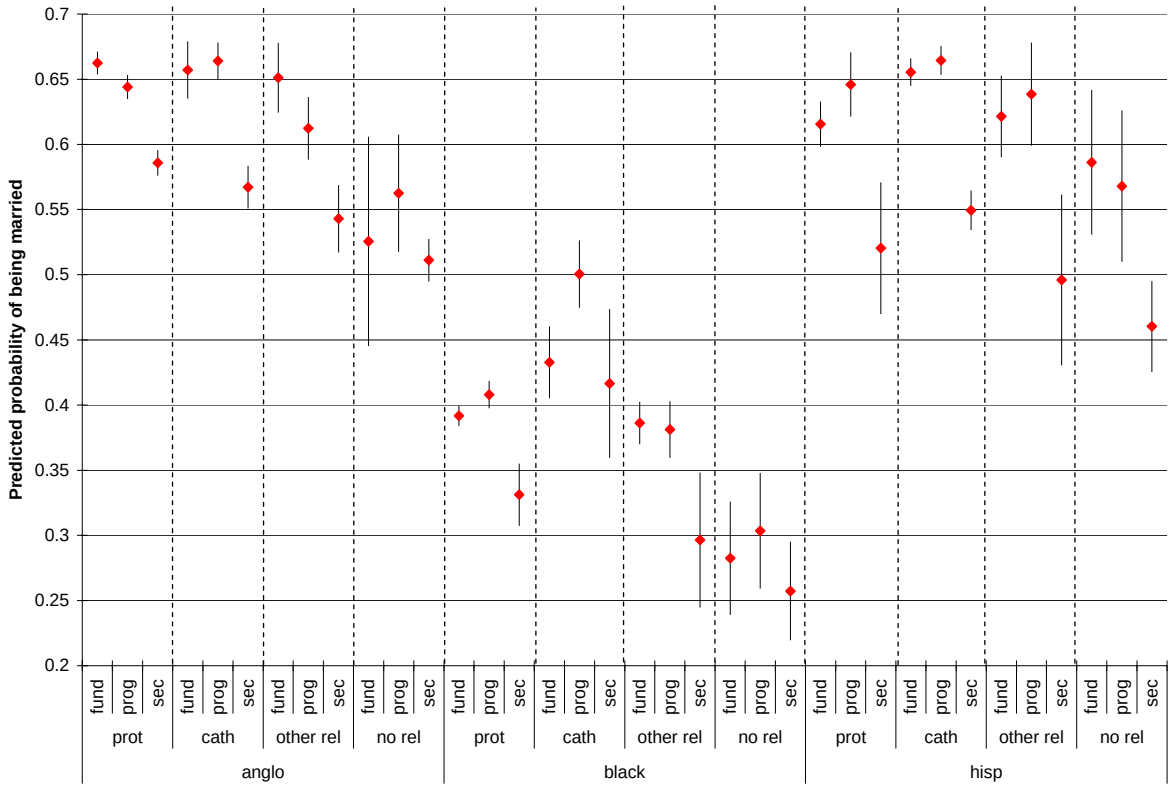

Figure 4: Predicted probability of being ever married with confidence intervals by ethnicity, religion and religiosity

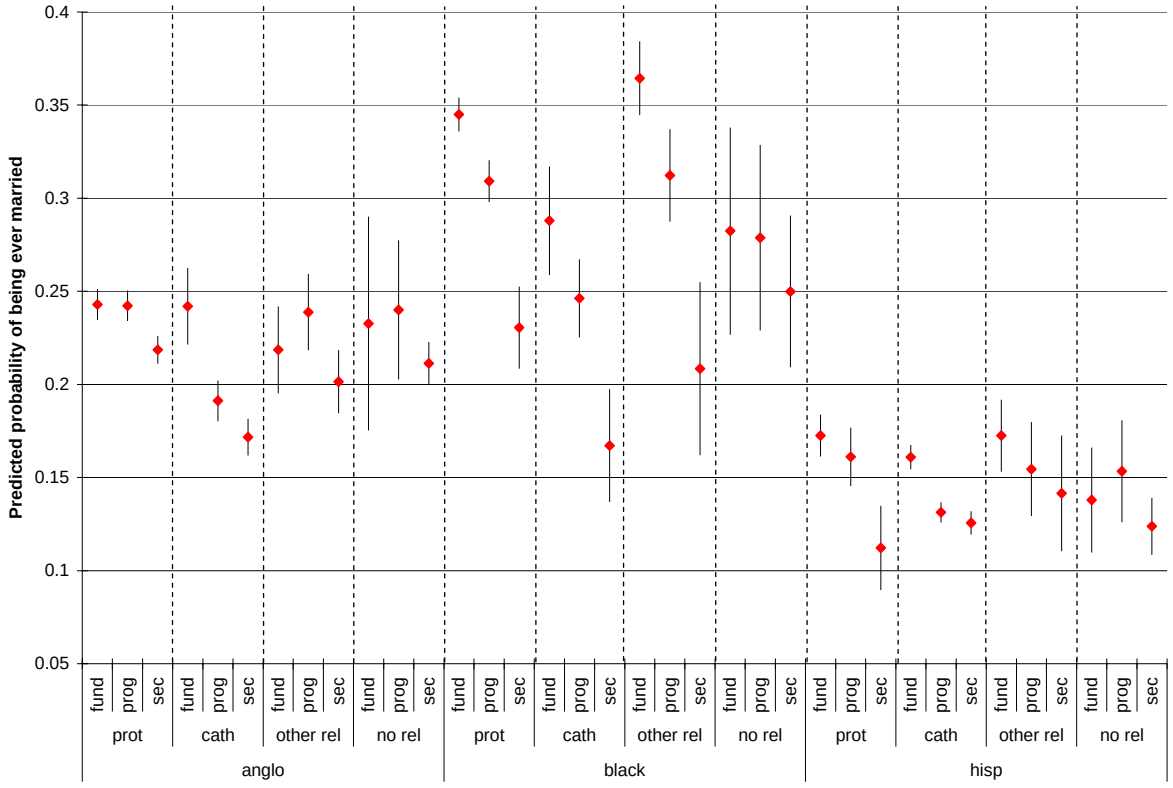

Figure 5: Predicted probability of being never married with confidence intervals by ethnicity, religion and religiosity

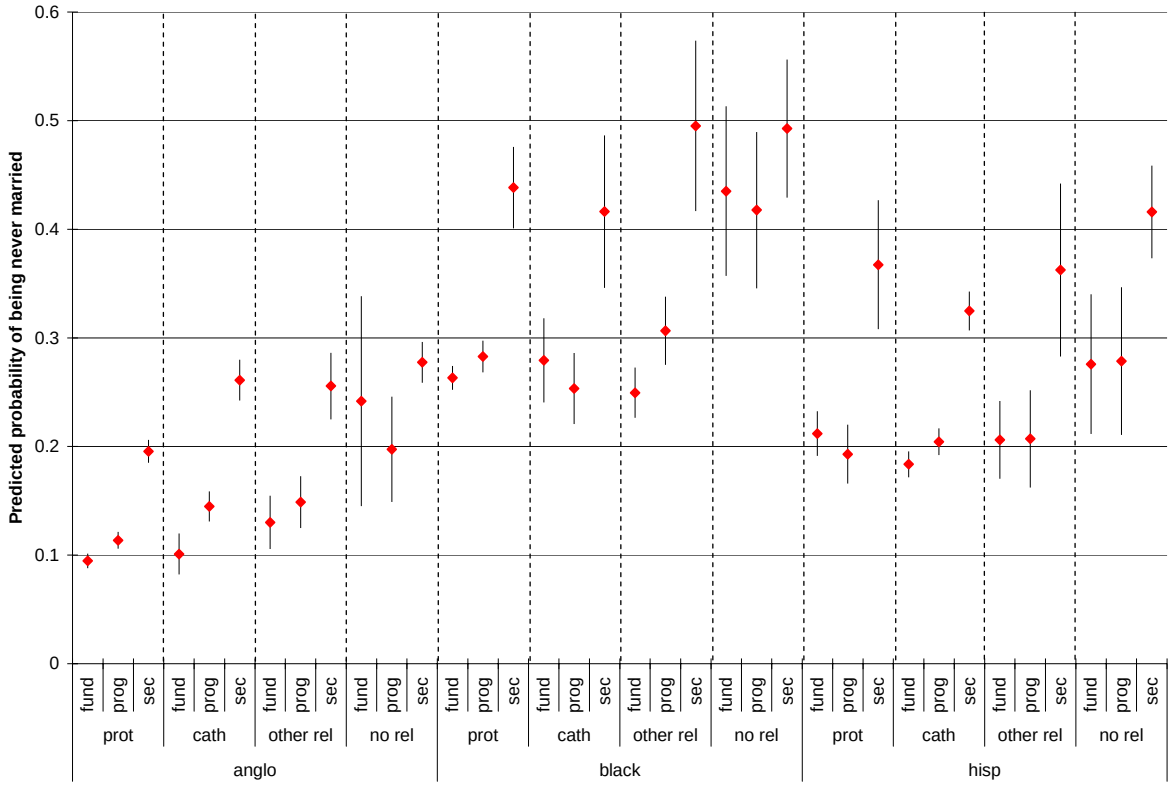

Figure 6: Predicted number of children ever born by ethnicity, religion and year