Jennifer Johnson-Hanks
Department of Demography
University of California, Berkeley

On the Politics and Practice of Muslim Fertility

Comparative Evidence from West Africa

Recent popular works have represented Muslim fertility as dangerously high, both a cause and consequence of religious fundamentalism. This article uses comparative, statistical methods to show that this representation is empirically wrong, at least in West Africa. Although religion strongly inflects reproductive practice, its effects are not constant across different communities. In West African countries with Muslim majorities, Muslim fertility is lower than that of their non-Muslim conationals; in countries where Muslims are in the minority, their apparently higher reproductive rates converge to those of the majority when levels of education and urban residence are taken into account. A similar pattern holds for infant mortality. By contrast, in all seven countries, Muslim women are more likely to report that their most recent child was wanted. The article concludes with a discussion of the relationship between autonomy and fertility desires.

Keywords: [Islam, fertility, child mortality, autonomy]

> The demographic explosion in Muslim societies and the availability of large numbers of often unemployed males between the ages of 15 and 30 is a natural source of instability and violence both within Islam and against non-Muslims
>
> —Huntington 1996

> Islamic terrorists have already deployed the car bomb and the plane bomb against us—but will the "population bomb" ultimately prove to be their most formidable weapon? Some in Washington—and the rest of the country—fear exactly this.
>
> —Eberstadt 2001

Introduction

Since September 11, 2001 (9/11), Muslim society, population, and culture have become objects of intense U.S. scrutiny, both scholarly and popular. A significant fraction of this scrutiny has focused on Muslim demography, treating the growth rates of Muslim populations as social and political problems in need of rapid attention. For example, the *New York Times* ran an article entitled "Radicalism: Is the Devil in the Demographics?" in December 2001, suggesting high fertility among Muslims as a key factor leading to religious fundamentalism (Sciolino 2001). A number of

Medical Anthropology Quarterly, Vol. 20, Number 1, pp. 12–30, ISSN 0745-5194, online ISSN 1548-1387.

political commentators have argued that high Muslim fertility has led to mobs of angry, unemployed young men from the Middle East to West Africa, mobs ready to be integrated into anti-U.S. terrorist cells (e.g., Cordesman 1997; Simon 2003; but see Hammel and Smith 2002). Huntington's best-selling book *The Clash of Civilizations* offers a sustained and compelling example of this position, arguing throughout that high fertility is an important cause of "Muslim militancy, militarism, and migration" (Huntington 1996:121). He several times reiterates his premise that "Muslim population growth has generated large numbers of unemployed and disaffected young people who become recruits to Islamist causes, exert pressure on neighboring societies, and migrate to the West" (1996:211).[1]

Concern that Muslim fertility is "too high" is also reflected in a range of informal and popular sources, from undergraduate essays to postings in Internet chat rooms. In particular, dozens of contributors to Internet discussions on websites such as www.jihadwatch.org, www.masada2000.org/islam, and www.e-thepeople.org/article/33823 focus on the consequences of high Muslim fertility and migration on Europe and the United States. For example:

> Among every four humans in the world, one of them is Muslim. Islam is now the second largest religious group in France, Great Britain and USA! There is no point in beating around the bush. The fact is that Islam['s] . . . adherents, whenever they establish "critical mass" of about 10 percent of a given population, begin to foment violence, revolt and Jihad. [The Sword of Militant Islam]

From scholarly books to newspaper articles to mass culture sources, it seems fair to surmise that Muslim fertility has come to matter politically in the United States. People write about it, believe it to be excessive, and fear it.

The politicization of population is—of course—neither new nor surprising. Foucault considered demography a critical discipline to the emergence of the modern state, concerned, he wrote, with the "spontaneous or concerted regulation of births" (Foucault 1990:116). During the Cold War, U.S. foreign aid flowed into family-planning programs around the world to avert the instability and turn toward communism that were expected to follow from rapid population growth in the absence of economic development (Hodgson 1988).[2] Basu has analyzed how the specter of high fertility rates are invoked to bolster political arguments in India (1997), and Feldman-Savelsberg has shown how infertility becomes a trope through which local communities experience and express their political disenfranchisement from the state (1999). Israeli officials regularly invoke high Palestinian birth rates as evidence that Israel is imperiled,[3] and—as we have seen—popular websites point with alarm to the differential reproductive rates of Christian and Muslim women in Europe and beyond. Not only is reproduction "stratified," in Colen's elegant formulation (1986; see also Ginsburg and Rapp 1991), but it is also used rhetorically, eliciting fears of a "rising tide" of Others, whose excessive reproduction at once represents and constitutes the danger they pose.

This article uses comparative, largely statistical methods to demonstrate that the specter of hoards of fertile Muslims is oversimplified and therefore inaccurate: the relationship between religion and reproductive rates depends heavily on national

context. I argue that reproductive rates are social products, are the result of a variety of forms of cultural practice, and are deeply embedded in local politics. Islam plays an important role in making social worlds and local politics, but its role is not uniform enough to have equivalent effects on fertility across different social, economic, or demographic contexts. This means that culturally grounded interpretations of the relationship between Islam and reproduction are not only interesting to us as anthropologists but also absolutely necessary. The quantitative and comparative analysis I present here demonstrates that Muslim fertility is not a domain in which the political scientists or economists can dismiss local variation as epiphenomenal to the "real" comparative story. There is no single, coherent Muslim reproductive pattern: the real story is local.

This argument could be made—in theory—with data from a wide range of countries, and it is perhaps surprising that I focus here on West Africa, rather than on the Middle East, given that so much of the political rhetoric in the United States has equated Islam with the Middle East. However, the central claims of Huntington and others are about Islam per se, making evidence regarding Muslims from anywhere relevant to the debate. There are three reasons why I focus on West Africa. First, comparing rates between Muslims and non-Muslims within countries requires using data from countries in which a nontrivial proportion of the population is non-Muslim. Most of the countries in the Middle East do not meet this requirement, whereas nearly all of the West African countries do. Second, it is necessary to have recent, microlevel data on fertility, infant mortality, and a range of covariates. These data are available to me from demographic and health surveys (DHSs) for a variety of West African countries, but for very few of the Middle Eastern countries. Finally—and most importantly—I have done all of my fieldwork in West Africa, and it is that there I have some ethnographic intuition.

Recent concerns such as Huntington's about Muslim reproductive rates stands in contrast to, and largely ignores, the substantial corpus of medical and social anthropology that has examined gender and reproduction within Muslim contexts (Abu-Lughod 1986; Delaney 1991; Inhorn 1994, 1996; Kanaaneh 2002; Masquelier 2001). To be fair, the disregard is arguably mutual. As a discipline, we have perhaps been too slow to respond to popular debates about the relationship between culture, population, and society that have significant policy implications, and about which we should have much to say. Under what circumstances does religion influence reproductive action? And how exactly? There are many reasons to argue that religious practice or membership in a religious community would have some bearing on a wide range of reproductively relevant actions, from sexual practice to marriage to breastfeeding to infant mortality, such that a narrow focus on fertility rates will be misleading. There are also strong reasons to argue that these effects will be highly contingent and context dependent.

Numerous scholars in the quantitative social sciences have argued that Muslims have higher fertility than Christians, across a wide range of political, economic, and social contexts (Moulasha and Rao 1999). Some have attributed this association to differences in women's autonomy (e.g., Koenig et al. 2003), others to socioeconomic status correlated with religion (Addai 1999; Alagarajan 2003). At the cross-national level, this argument has become weak or untenable: there are just too many Muslim countries with fertility as low as or lower than their non-Muslim neighbors.

Fertility is now below the replacement rate of 2.1 children per woman in Albania, Algeria, Iran, Tunisia, and Turkey. It is under three children per woman in Azerbaijan, Bahrain, Brunei, Egypt, Jordan, Kyrgyzstan, Morocco, Qatar, and Uzbekistan. Although some of the countries with the highest fertility rates are majority Muslim (such as Afghanistan, Niger, and Somalia), more high-fertility countries are not (e.g., Uganda, Congo Kinshasa, Angola, and Liberia): only six of the 15 countries that presently have fertility rates over six children per woman have Muslim majorities.[4] Looking cross-nationally, therefore, the idea of a single, coherent "Muslim fertility" is hard to defend. In this article, I seek to show that the idea fails within countries, too.

McQuillan (2004) argues that religion will influence fertility directly only when religions have strong fertility norms and a mode of organization through which to enforce norms, and when religion plays a central role in the social identity of its adherents. Agadjanian (n.d.), by contrast, argues that the religious differences in reproductive rates in Africa are the result of the social networks that are associated with religious practice, but yet outside the sphere of religious doctrine. Agadjanian argues that active participation in Catholic communities is associated with higher contraceptive use, despite the fact that contraception is antithetical to dogma, because information about reproduction and family planning is actively shared in parachurch networks. In this article, I take a position similar to Agadjanian's, arguing that the importance of religious practice or membership in a religious community for fertility is reducible neither to economics nor to doctrine, but relies on social—and even demographic—context.

All God's Children

My argument that religious affiliation has no consistent association with reproductive rates does not imply that fertility and religion are not densely interrelated in personal or collective experience in specific times and places. Of course they are. Rather, the point is that the structure and consequences of this dense interrelation vary, undermining the simple generalizations asserted by politicians and the popular press: to demonstrate that Muslims do not have systematically higher fertility than do non-Muslims in no way questions the centrality of religion to how women or couples think about or experience reproduction.

To emphasize that religion can be central to the cultural representation and practice of reproduction without having a uniform or consistent effect on reproductive rates, let us look at how Mossi women on the outskirts of Ouagadougou, Burkina Faso, describe reproduction. Whether the topic is infertility, infant mortality, or even the number of children that they would hope to have, Mossi Christians and Muslims invoke divine intervention, attributing both their and their neighbors' fertility histories to God's will. The similarity of responses across religious lines is homologous to the statistical similarities in reproductive practice that we will see later. The following are taken from 30 interviews I conducted in 2004 as part of a pilot project on reproductive intentions and point to the centrality of divinity in Mossi women's talk about reproduction, regardless of their religious affiliation:

> First there is just a blood clot. And then God gives a name to the blood clot. He calls to it with its name. From then on, the woman knows that she will give birth. [Muslim woman, age 34]
>
> ***
>
> JJH: Sometimes it happens that a woman would like to get pregnant, but the pregnancy does not come. According to you, what makes that happen?
>
> RS: That may happen if the woman has had abortions. If a women kills her children in secret it is normal that God should decide not to send her any more children. For that woman is a sorceress. God will not tolerate. [Christian woman, age 27]
>
> ***
>
> [Miscarriage] is a large problem, very large! We do not know why it occurs. We say it is because the woman worked too hard during the pregnancy. But in truth all we know is that it is the will of God. Neither in the day nor in the night can we know the will of God. [Muslim woman, age 40]

Burkinabe Muslims, like their Christian conationals, consider reproduction through the lens of their religious commitments. The fact that Muslims have fertility rates that are neither systematically higher nor systematically lower than do non-Muslims shows only that the relationship between religion and fertility is inflected by national, cultural, and economic factors. It does not question the experiential centrality of religion in reproductive practice.

The Religious Demography of Fertility in West Africa

In this section, I demonstrate that the relationship between religious affiliation, fertility, and infant mortality is not stable across countries in West Africa but, rather, varies widely and systematically with population composition. Making this case requires reliable, nationally representative demographic data. For this purpose, I use the DHSs for seven West African countries: Benin (2001), Burkina Faso (1998–99), Cameroon (1998), Chad (1996–97), Cote d'Ivoire, (1998–99), Ghana (1998), and Nigeria (1998), countries selected on the basis of the availability and suitability of data.[5]

In the years since Fortes (1970) advocated the use of surveys and Goody (1969) the use of cross-cultural comparison, cultural anthropologists have tended to turn away from both methods (but see Bledsoe 2002 and Guyer 2004 for ingenious uses of survey data). Concerns that quantitative data are too thin, too decontextualized, or too politically suspect all contribute to the decline of survey data in cultural anthropology, and sometimes with good reason. However, some questions are best addressed with quantification. My intention here is neither to return anthropology to cross-national comparison nor to turn away from close, cultural investigation of specific people situated in place and time. Neither am I unconcerned about the assumptions and limitations of demography (see Johnson-Hanks 2002, 2003, 2006). To the contrary, I seek to use methods widely established in related disciplines to make the case for local variability and difference. Other articles in this issue expertly show what it means to be Muslim in particular contexts; in this article,

I offer the complementary analysis, showing that the quantifiable consequences of being Muslim differ among these local contexts.

The DHS on which I rely for the following analysis are nationally representative sample surveys of women ages 15–49, conducted as collaborations between Macro International and the national statistical agencies; sample sizes vary from 5,501 for Cameroon to 9,810 for Nigeria. Because they include questions about fertility as well as a range of social and economic characteristics, the DHS allow the kind of analysis necessary to call the media panic over Muslim fertility rates into question. An important drawback of these data is that they do not distinguish between Sunni and Shiite Islam; although several other articles in this issue demonstrate the importance of that distinction for reproductive practice, I am not able to address it here.

As with any kind of data, the reliability and validity of the DHS data are important concerns. Survey data are susceptible to three main types of bias or error, commonly called sampling error, nonresponse error, and response error. Sampling error refers to the representativeness of the people included in the survey: to what degree are they similar to people not included? The usual solution to this in quantitative analysis, and the one followed by the DHS, is random sampling, whereby every person in some geographic area has an equal probability of being selected. Nonresponse error refers to the bias introduced when some people refuse to answer the survey, as they may have different characteristics than do the people who are included. This bias is large when a large proportion of people refuse; however, none of the African DHS had refusal rates above a few percent. Both sampling error and nonresponse error are constantly monitored by Macro International, which publishes estimates of the errors associated with each survey: they are reassuringly small. Finally, response error occurs when the person answering the survey gives inaccurate, inappropriate, or irrelevant information. It is the only source of bias that is likely to be important in the DHS, although most of the published work on the topic concludes that even response error is relatively small (Bankole and Westoff 1998; Strickler et al. 1997; but see Stanton et al. 2000 on maternal mortality).

The analysis uses linear and logistic regression, statistical techniques to quantify the degree of association between an outcome and a set of potential cofactors. These associations are not necessarily causal; indeed, La Place developed the method of ordinary least squares to predict the locations of Saturn and Jupiter in the sky, using variables that were emphatically not causal (Stigler 1986:31–35). What regression can show is whether or not two factors are systematically related across some population, taking into account some specific set of other factors (see discussion in Johnson-Hanks 2005). For simplicity, I present only the associations between identifying as Muslim and fertility and mortality here; the full sets of regression results are available on request.

Figure 1 shows two sets of estimates (with 95 percent confidence interval bars) of the average number of additional children that a Muslim woman at each age would have, compared to a non-Muslim. At the far left are the results for all seven countries taken together. The seven countries are organized in ascending order of Muslim proportion—less than 15 percent of the women interviewed in Ghana identified themselves as Muslim, whereas over 55 percent of women in Burkina Faso and Chad did so. In Ghana, Cameroon, Benin, Cote d'Ivoire, and Nigeria, Muslims are in the minority, whereas they constitute more than half of the populations in Burkina Faso

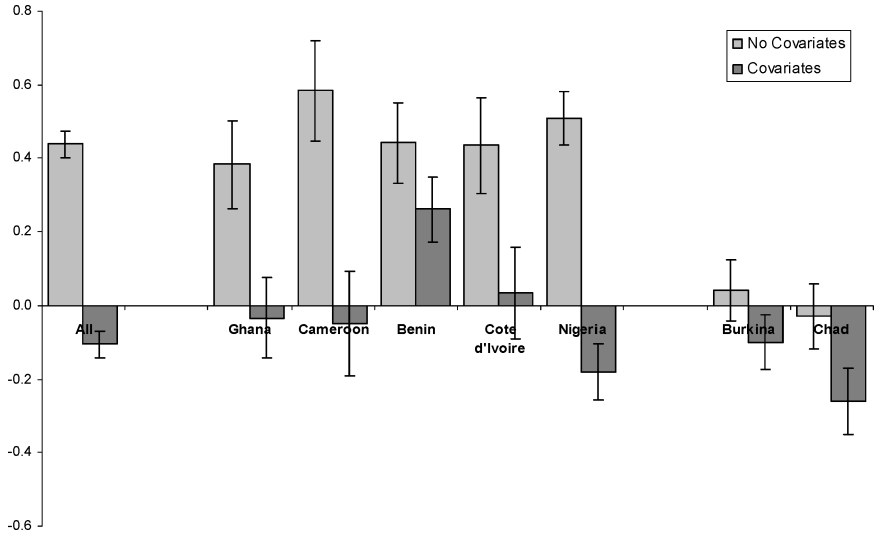

Figure 1 Estimated number of additional children born to a Muslim woman, compared to non-Muslim (results from linear regression, DHS data, various years).

and Chad. The pale bars on the left show the estimates for each country produced by an ordinary least squares, using a reduced-form linear equation that takes account only of the woman's age and her religious affiliation. Thus, in Cameroon a Muslim woman at each age would be estimated to have almost 0.6 of a child more than a non-Muslim woman of the same age, whereas in Burkina Faso a Muslim woman would be estimated to have only about 0.05 of a child more than a non-Muslim woman would her age-mate. Without covariates, the estimates are measurably greater than zero in five of the seven countries as well as for the joint dataset, meaning that—measured crudely—Muslim women in these countries have more children than do non-Muslims. These are the kinds of data that have generated the political firestorm, leading to the debate about whether theology, women's autonomy, or economy accounts for the association between religious affiliation and fertility.

The darker bars on the right show the estimates produced by an equation that controls not only for age but also for education, urban residence, years single, and—in the case of the estimates for the seven countries collectively—the country of residence.[6] These variables capture the basic parameters of social class, access to resources, and exposure to the risk of childbearing, and are the most widely used covariates in quantitative models of fertility. In all countries, adding covariates dramatically decreases the estimate of additional births: in three of the countries and in the joint dataset, Muslims and non-Muslims are not measurably different once the covariates are included, in three countries (Burkina Faso, Chad, and Nigeria) Muslim women are now estimated to have lower fertility, and in one (Benin), Muslim women continue to have higher fertility after the effects of education, urban residence, and years spent single are taken into account. In Ghana, Cameroon, and Cote d'Ivoire this should be interpreted to mean that the measurable fertility differences visible in

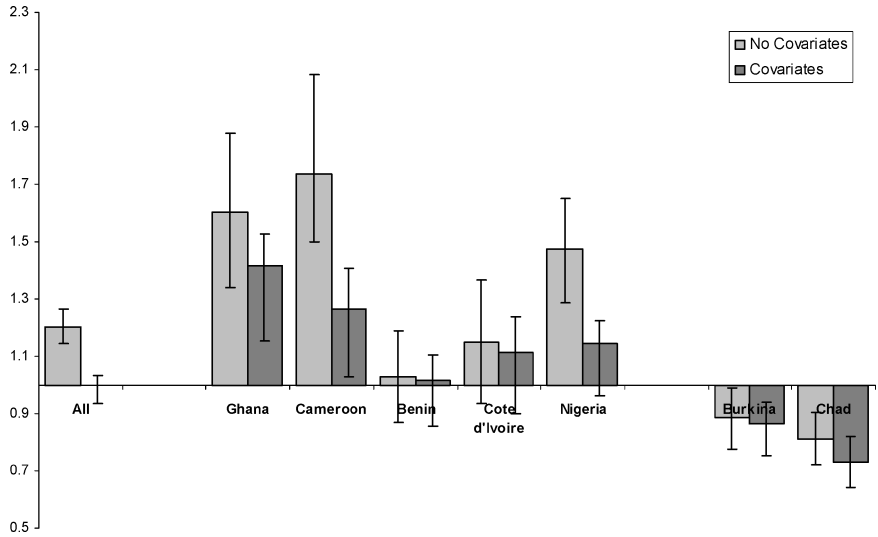

Figure 2 Relative odds that a Muslim woman has had at least one child die, compared to non-Muslims (results from logistic regression, DHS data, various years).

the crude data can be accounted for by differences in education, urban residence, and marriage timing. If religious affiliation has any effect on fertility in these four countries, that effect must work through these intermediary factors. In contrast to the direct force of religious ideology on reproduction analyzed by McQuillan, here it is processes of selection into and out of school, into marriage, and into urban residence that account for the apparent Muslim advantage in reproduction.

In addition to the importance of education, marriage timing, and urban residence in accounting for fertility outcomes, this graph indicates a significant difference between the situation in Ghana, Cameroon, Cote d'Ivoire, Nigeria, and Benin, on the one hand, and Burkina Faso and Chad, on the other hand. In the former countries, Muslims appear to have measurably higher fertility in the crude data, whereas that pattern does not hold in either of the latter countries. As noted above, Ghana, Cameroon, Cote d'Ivoire, Nigeria, and Benin are countries in which Muslims are in the minority, constituting between 13 and 43 percent of the population. Burkina Faso and Chad have scant Muslim majorities, whose reproductive rates are either indistinguishable from or in fact lower than that of their non-Muslim conationals.

The concern in the public media, exemplified by the *New York Times* article about birth rates and fundamentalism, is driven as much by population growth rates and numbers of Muslim youth as by fertility per se. Population growth rates concern not only fertility but also mortality—and (in poor countries) particularly infant and child mortality. Figure 2 shows estimates for child mortality similar to those for fertility shown above. Because the distribution of deaths is so skewed (the vast majority of women never experience a child death), this graph shows the relative odds of ever having had a child die. Relative odds multiply; thus, odds of one indicate no difference from the reference group, numbers larger than one indicate an

increase, and numbers smaller than one a decrease. As before, the pale bars indicate the crude estimates, without covariates except for the number of years since the birth of the first child (a measure of exposure to the risk of death). Similar to above, Muslims in the minorities in Ghana, Nigeria, and Cameroon suffer measurably higher odds of having at least one child die. In Benin and Cote d'Ivoire, there is no measurable difference between Muslims and non-Muslims (the error bars go through one). The children of Muslim mothers appear to face lower mortality risks than do non-Muslims in Burkina Faso and in Chad.

The dark bars again indicate the estimates calculated with covariates: number of births, years since the first birth, education, urban residence, and whether the woman was under 16 at the birth of her first child. As in the case of fertility, these covariates decrease the difference between Muslims and others in the joint dataset and in the five countries where Muslims are in the minority. In the joint dataset, the effect of the covariates is especially clear—once they are added, Muslims look absolutely identical to non-Muslims. In Ghana and Cameroon, however, despite the decrease in magnitude of the effect, infants born to Muslim women still face measurably higher mortality risks than do children of non-Muslims. In Burkina Faso and Chad, the children of Muslim women have measurably lower mortality both with and without covariates—in fact, the addition of covariates makes the Muslim advantage stronger.[7]

In the aggregate data for West Africa, Muslim women appear to face higher rates of both fertility and child loss when intervening factors are not considered. These differences, however, are associated with education, urban residence, and age at marriage; by accounting for these covariates, we eliminate the measurably higher fertility or mortality of Muslims in the joint dataset. However, even with covariates, Muslim and non-Muslim women are estimated to face significantly different fertility and mortality regimes within specific countries: higher fertility in Benin, but lower fertility in Chad; higher mortality in Cameroon and Ghana, but lower mortality in Chad and Burkina Faso. The joint result of no difference in these seven West African countries overall masks quite real—and systematic—differences within countries. The system is this: in countries where Muslims are a minority, they tend to face a more rapid demographic metabolism, both in the form of higher mortality or higher fertility. In countries where they constitute at least 50 percent of the population, they experience the opposite: lower fertility and lower mortality than their conationals of Christian and other religions.

This last observation suggests that the attribution of differential demographic rates by religion is oversimplified and therefore erroneous, at least in West Africa. Instead, what appear to be at play are religiously identified communities of practice that face different structures of opportunity or incentives, depending on whether they are in the majority or minority. Muslims have the same number or more children than non-Muslims where they are in the minority, but fewer children where they are the majority; their children are equally or more likely to die in countries where they are the minority, but less likely to die where they are the majority, controlling for women's education, age at marriage, and urban residence. This reversal means that there is nothing about Islam per se that leads to specific demographic patterns. In West Africa, at least, members of religious minorities—whether Muslim or non-Muslim—tend to have higher rates of fertility and infant mortality than

do the religious majorities. If Muslims posed the demographic threat suggested by Huntington and others, then the direction of the association between Islam and fertility would have to be stable across countries. But it is not.

At the same time, these data show that the patterns in the religious demography of West African fertility cannot be attributed solely to economic inequality. Let me be clear: there is a coherent relationship between socioeconomic advantage, fertility, and infant mortality; and socioeconomic advantage is associated with religious affiliation, as we can see by comparing the differentials with and without socioeconomic covariates. However, it is not the case that religious majorities are always advantaged. Rather, Muslims are systematically disadvantaged in across all seven countries, regardless of whether they are in the majority or minority. As a result, taking into account education and urban residence—two of the best available measures of economic advantage for sub-Saharan Africa—decreases or eliminates the apparent differences between Muslims and non-Muslims in those countries where Muslims are in the minority, but increases the differences in the opposite direction in those countries where Muslims make up the majority.

If relative economic advantage accounted for the differences—if, for example, the majority religious community in each country derived there from some systematic pecuniary advantage that translated into slower demographic metabolism—then controlling for education and urban residence would eradicate the difference in reproductive rates between Muslims and non-Muslims in both contexts. Instead, what we observe is an effect of minority status itself. Thus, fertility differences by religion in West Africa, when they occur, are neither a stable effect of the Muslim religion nor a straightforward consequence of economics but, rather, the result of an interaction between the two. We must conclude that social context and national politics mediate the association between religious affiliation and reproductive practice.

Reproductive Politics

In this article, I examine the fertility of Muslims because Muslim fertility has been created as an object of political debate. When Huntington writes "Islam is exploding demographically with destabilizing consequences" (1996:20), we are clearly in the domain of reproductive politics. Insofar as politics concerns the distribution of resources, at least in part, the politics of reproduction are complicated for at least three reasons.

First, for fertility rates—unlike, say, homicide rates or the proportion of the population literate—there is no single scale in which changes or differences may be seen as systematically better or worse. Although it is probably always in the best interests of society to reduce homicide and increase literacy, whether fertility should be higher or lower depends very much on the circumstances.

Second, even given some set of circumstances, reasonable people may disagree on whether fertility should be higher or lower, and by how much. Those focused on environmental concerns may disagree with others thinking foremost about long-run interest rates, or about the composition of the future electorate.

Third, fertility often—perhaps always—invokes invidious comparisons between groups as people think of population as a zero-sum game, in which anyone's gain is another's loss. Whereas in most democratic states it would be considered

unacceptable to militate for higher mortality rates, lower proportions literate, or higher rates of violent crime within some other social or national group (developing countries, immigrants, racial minorities, or religiously categorized others), while advocating the opposite within your own, this move is widespread as regards fertility. "Our women should have more children and theirs fewer" has been the cry not only of early 20th-century U.S. eugenicists, but also of Hindu nationalists (Basu 1997), ethnic minorities in Cameroon (Feldman-Savelsberg 1999), Israeli officials (Kanaaneh 2002), Italian fascists (Horn 1994), and others, including religiously defined communities of practice. Huntington himself perhaps states this most clearly, writing that "the numerical expansion of one group generates political, economic, and social pressures on other groups and induces countervailing responses" (1996:259).

Although there is no uniform scale on which fertility rates can be said to be improving or deteriorating, a number of factors associated with fertility do have such valenced scales, centrally including child mortality and unwanted pregnancy. As we saw in the previous section, child mortality and fertility follow similar sociodemographic patterns—among social groups with higher than average child mortality, fertility is usually also high.[8] However, the causal mechanisms that lead to this association remain hotly contested, and the relationship is much harder to identify at the individual level. Reasoning from theory, high child mortality should lead to high fertility if couples either replace deceased children or anticipate possible future deaths by bearing "extra" children; however, most studies have found surprisingly little evidence of these mechanisms (Montgomery and Cohen 1998; Palloni and Rafalimanana 1999; Preston 1978). Alternately, high fertility could lead to high infant mortality, if couples unable or unwilling to limit fertility through contraception manage their family size and composition through selective neglect, abandonment, or infanticide, as shown for specific cases by Kertzer (1993), Scheper-Hughes (1992), and Campbell et al. (2003). Finally, the association could be technically "spurious," meaning that there is no causal relationship between the variables, but, rather, that both occur independent of each under the same sets of circumstances.

Whatever the causal structure, what matters is that the Muslim–non-Muslim fertility differentials follow the same patterns as the Muslim–non-Muslim child mortality differentials. That is, in the countries where Muslims are in the minority, their higher fertility is offset by their higher rates of child mortality; in countries where Muslims are in the majority, lower child mortality partially compensates for their lower fertility. The common view in the popular press of Muslim reproduction as exorbitant or out of control cannot be sustained by the evidence, which show a more nuanced picture in which minority status and economic disadvantage are as important as—or more important than—religion.

Like child mortality, but unlike fertility in general, the rate of unwanted pregnancy or childbearing is generally treated as having a systematic valence: decline is better than increase. At least since the 1994 Cairo consensus, there is widespread agreement among policy makers across the political spectrum that averting undesired pregnancy in developing countries is both morally desirable and politically expedient. Also, like infant mortality and unlike general fertility, unwanted fertility is largely the result of lack, either a lack of resources (oral rehydration therapy, mosquito netting, or

contraception) or of the ability to take advantage of those resources. In this way, unwanted fertility and infertility are closely related; both are fundamentally political, embedded in contests for control over the means of reproduction (see Ginsburg and Rapp 1991; Inhorn 1996).[9]

Intentions and Autonomy

Why do some women end up with more children than they wanted? This question occupied much of U.S. demography in the second half of the 20th century, and the commonly given answers are a lack of access to contraception and a lack of autonomy (e.g., Bongaarts 1997; Casterline and Sinding 2000; Dodoo 1998; Hogan et al. 1999). It is "autonomy" that interests me here, first because a number of scholars of Islam have proposed that this concept of Western liberalism translates particularly poorly to the experiences and self-representations of some Muslim women (see Abu-Lughod 1986 on the "honorable mode of dependence"; see also Mahmood 2001). Women's autonomy is also interesting because of its increasing centrality in reproductive policy in poor countries: more and more, when unwanted childbearing is the problem, women's empowerment is seen as the first solution. And yet, women's autonomy appears to be a difficult concept to formalize or compare across contexts; in the growing literature devoted to the topic, the term is used in a variety of ways (e.g., Das Gupta 1995; Hogan et al. 1999; Jejeebhoy and Sathar 2001; Morgan and Niraula 1995). Central to international development efforts, women's autonomy would benefit from further ethnographic analysis across different social contexts.

In particular, I am interested here in the relationship between reproductive intentions and autonomy—between the formulation of specific desires about fertility and the independent ability to achieve them—and in the relationship between both of these things and religion. Although Muslims and non-Muslims in West Africa do not differ, on average, in rates of fertility and infant mortality, there are measurable differences between the two groups in their reports of their own autonomy and in the likelihood that they will have had unwanted pregnancies: perhaps paradoxically, Muslim women in West Africa are less likely to report that they have any say in their fertility outcomes, but more likely to say that they wanted their most recent child. But what does it mean to want something that you do not think you can choose?

We already saw that many Mossi women attribute ultimate agency regarding reproductive events to God. But even in the realm of everyday choices about contraception, many Muslim Burkinabe women explained that their husbands' decisions superseded their own. Insofar as autonomy refers to the right or power to make choices about her life or future, Muslim women in Ouagadougou deny that they had autonomy in arenas from reproduction to cooking:

> Me myself I can decide nothing. I could propose to my husband that we should have three children, spaced three years apart. We discuss it and if he has the same idea, we will adopt it. Otherwise if he wants to make four children, it is him, his idea that we follow. The same for spacing. [Muslim woman, age 40]

***

> The choice of the number of children always returns to the husband. You could well decide to have four children, but after your four there, if he finds that it is not sufficient, he can decide to add. He is the head of the household. [Muslim woman, age 31]
>
> * * *
>
> I am a housewife and my husband works. I cannot decide anything. He decides even what we should eat! He decides what we should do. I can decide nothing. Nothing! [Muslim woman, age 36]

In contrast to discussions of God's intervention in reproduction, Mossi women's reports of their own role in household decision making generally followed religious lines, with Christian women reporting more conversation, collaboration, and agreement with their husbands than Muslim women did. Homologously, Muslim women across all seven countries are less likely to report that they have spoken with their husbands about family planning or that they agree with their husbands about how many children they would like (DHS results not shown). In the context of reproduction, these data have been taken to indicate lower levels of empowerment among Muslim women (Measham 2004).[10] In the framework of the 1994 Cairo agreement and the UN Millennium Development Goals, this lack of autonomy constitutes an impediment to development, a problem that needs to be solved.

Yet the nature of the problem is not so clear. Despite the indications that Muslim women in West Africa may be less free to make choices about their reproductive lives, they are also substantially more likely than their non-Muslim conationals to report that they got the reproductive outcomes that they wanted. Figure 3 shows the relative odds that a Muslim woman reported that at the time she became pregnant with her last child, she actively wanted a child.[11] In all countries, both with and without covariates, Muslim women are substantially more likely to say that their most recent child was wanted. This result may—hesitantly—call into question some of the policy focus on increasing women's autonomy at all costs. If the women who count as reproductively unempowered are satisfied with their reproductive lives, the problem appears somewhat less urgent.

Thus, whether Muslim women have more, fewer, or the same number of children as their non-Muslim counterparts, throughout West Africa they are more likely to say that their most recent child was wanted. This is true despite their apparent relative lack of autonomy in reproductive decisions, despite the fact that they rarely report agreeing with their husbands about fertility, and despite the fact that they rarely report discussing family planning with their husbands. There appear to be profound differences about what it means to "want" a child between Muslims and non-Muslims across a variety of West African countries, even if these do not translate into fertility differences. These differences cannot rest simply on the fact that many Muslim women attribute ultimate agency for children to God, as Christian women (both in Burkina Faso, as noted here, and also in Cameroon) frequently do so, as well. Neither can the difference rest solely on economic factors: not only do the covariates fail to eliminate the difference in any country but in Benin and Burkina Faso, controlling for education, urban status, and so forth makes the difference between Muslims and non-Muslims stronger.

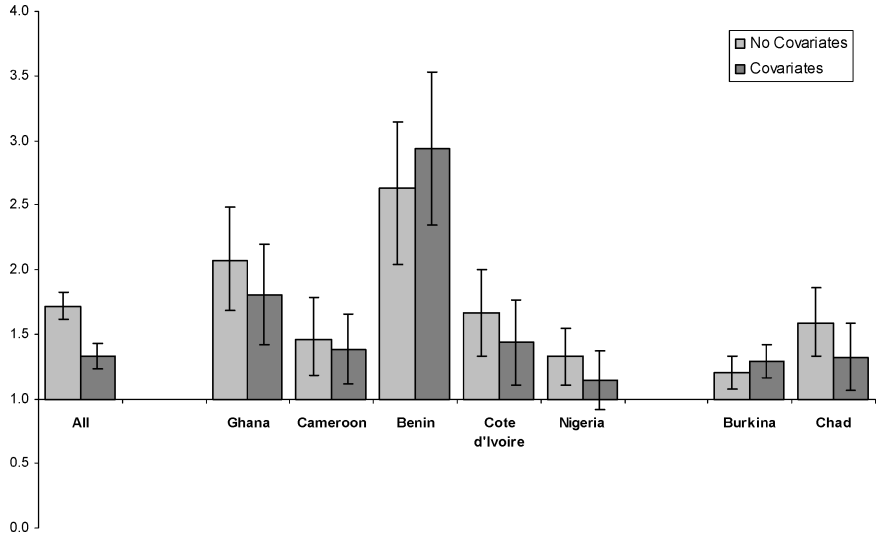

Figure 3 Relative odds that a Muslim woman wanted her last child, compared to non-Muslims (results from logistic regression, DHS data, various years).

Conclusion

I argue in this article that recent anxiety in the Western press and public about excess Muslim fertility is not supported by the quantitative data. If "the devil is in the demographics," as the *New York Times* headlines editor suggests, then it is not a Muslim devil. Data from seven West African countries demonstrate that Muslims face fertility rates similar to their non-Muslim conationals, and that the specific relationship between the reproductive levels of the two subgroups depends on the national context. Where Muslims are in the majority, their fertility rates are lower than those of non-Muslims; where they are in the minority, their fertility rates are greater than or equal to those of the national religious majority. Child mortality rates are higher among Muslims in two countries and lower in another two. The one difference that appears stable across countries is unwanted childbearing: in all seven countries, even controlling for a wide range of covariates, Muslim women are far more likely to report that they wanted a child at the time they became pregnant with their most recent child.

Since 9/11, U.S. political discourse has included the specter of rapidly reproducing Muslims, whose high fertility encourages fundamentalism and enables terrorism. The central aim of this article has been to show that this specter is a paper tiger, and that reality is much more complicated. The politics of reproduction include not only the ways in which access to the means of reproduction is stratified but also the political representation of fertility for fear mongering or to force through specific policies (see Basu 1997). Anthropology may be politically engaged by advocating for the disenfranchised but also by refuting representations of the world that may be politically expedient for some but are wrong. This article has sought to show that there is

no evidence of a global phenomenon of "Muslim fertility." However, much remains to be learned about the fertility of Muslims in specific times, places, and contexts.

Notes

1. And similarly: "Population growth in Muslim countries . . . provides recruits for fundamentalism, terrorism, insurgency and migration. . . . Demographic growth threatens . . . non-Muslim societies" (Huntington 1996:103).

2. To my knowledge, birth rates in the Soviet Union and satellite states were, themselves, not of particular political concern. The issue was that high fertility among poor people in unaligned countries (the Third World) would inhibit the economic growth necessary for political stability and democracy, leading frustrated, unemployed youth to turn to the radical ideology of communism. Today, this same concern about the link between unemployment, economic growth, and population growth holds, but with the added concern that the excessive fertility itself is seen as simultaneously a cause and a consequence of radical Islamist ideologies.

3. For example, according to a CBS report from July 2004, Israeli "officials also say the disengagement plan will allow Israel to retain its character as a Jewish, democratic state by redrawing boundaries to exclude non-Jewish populations with higher birth rates" (CBS News 2004).

4. Fertility data are available at the U.S. Census Bureau (n.d.). Data on religious affiliation are available at Adherents.com (n.d.).

5. Thus, Senegal was omitted because the question on religion was not asked. Gabon, Niger, and Mali were omitted because either too few Muslims or too few non-Muslims were surveyed.

6. Using ordinary least squares, estimates are of the coefficients of the equation $y = \alpha + \beta ixi + \varepsilon$, in which the x variables are as follows: Age in years (continuous), Age squared, Urban residence (dummy, 1 = urban), Attended primary school (dummy, 1 = yes), Attended secondary school (dummy, 1 = yes), Years single (Continuous, equals age at first marriage if ever married, else age at survey), and—for the joint estimate—a set of country dummies. The basic pattern—large differences in fertility between Muslims and non-Muslims without covariates, but little or no difference with covariates—holds under a variety of specifications.

7. These are results from logistic regression, which predicts the probability of an outcome as a function of the sum of the logs of a set of covariates using maximum likelihood estimation. Shown here are the exponeniated coefficients. The regression equation has the form: $P(Y = 1) = 1/(1 + \exp(-b(\alpha+\beta i\, xi)))$, where the x variables are as follows: Age in years (continuous), Age squared, Urban residence (dummy, 1 = urban), Attended primary school (dummy, 1 = yes), Attended secondary school (dummy, 1 = yes), years since the first birth (continuous), whether the mother was under 18 when she had her first child (dummy, 1 = yes), and—for the joint estimate—a full set of country dummies.

8. Using data from the U.S. Census Bureau for 232 countries, the country-level correlation between the infant mortality ratio and total fertility rate is .82. Correlation coefficients vary in absolute value from .0 (no association) to 1.0 (perfect association); .82 is therefore a strong association. (Data available at U.S. Census Bureau n.d.)

9. However, in sharp contrast to child mortality, unwanted pregnancy does not have a uniform or simple association with access to resources: in some situations, more privileged women actually have higher rates of unwanted childbearing. Unwanted childbearing arises when women do not want to bear any more children but are unable to act on that desire. Therefore, women who desire very large families, or who do not have strong preferences about the number of children that they bear, face relatively low risks of unwanted

childbearing as do women who are fully able to implement their reproductive intentions. It is in-between, for the women who explicitly hope for small families but cannot act on that hope, that unwanted childbearing is common.

10. Analyses of Islam and women's autonomy in Asia have, however, generally found no systematic relationship between Islam and women's autonomy (Ghuman 2003; Jejeebhoy and Sathar 2001; Morgan et al. 2002).

11. This question has been the subject of substantial discussion, as several studies (most compellingly Bankole and Westoff 1998) have shown that the response to the question changes over time, and there is ample reason to suspect that women "realize" that they wanted a child once he or she is in fact born. The question reads "Just before you became pregnant with [name of child], did you want to become pregnant?" The options are (1) Yes, at that time, (2) Yes, but later, or (3) No, not at any time. This analysis treats responses 1 and 2 as "wanted" and 3 as "unwanted." Coding response 2 as "unwanted" makes the reported effect substantially stronger.

References Cited

Abu-Lughod, Lila
1986 Veiled Sentiments: Honor and Poetry in a Bedouin Society. Berkeley: University of California Press.

Addai, I.
1999 Does Religion Matter in Contraceptive Use among Ghanaian Women? Review of Religious Research 40(3):259–277.

Adherents.com
N.d. World Religions Religion Statistics Geography Church Statistics. Electronic document, http://www.adherents.com/adh.predom.html, accessed August 15, 2004.

Agadjanian, Victor
N.d. Religion and Fertility in sub-Saharan Africa. Unpublished MS.

Alagarajan, M.
2003 An Analysis of Fertility Differentials by Religion in Kerala State: A Test of the Interaction Hypothesis. Population Research and Policy Review 22(5–6):557–574.

Bankole, A., and C. Westoff
1998 The Consistency and Validity of Reproductive Attitudes: Evidence from Morocco. Journal of Biosocial Science 30:439–455.

Basu, Alaka
1997 The "Politicization" of Fertility to Achieve Non-Demographic Objectives. Population Studies 51:5–20.

Bledsoe, Caroline
2002 Contingent Lives: Fertility, Time, and Aging in West Africa. Chicago: University of Chicago Press.

Bongaarts, John
1997 The Role of Family Planning Programmes in Contemporary Fertility Transitions. *In* The Continuing Demographic Transition. Gavin Jones, Robert Douglas, John Caldwell, and Rennie D'Souza, eds. Pp. 422–443. Oxford: Oxford University Press.

Campbell, Cameron, Wang Feng, and James Lee
2003 Pretransitional Fertility in China (Notes and Commentary). Population and Development Review 28(4):735–752.

Casterline, John, and Steven Sinding
2000 Unmet Need for Family Planning in Developing Countries and Implications for Population Policy. Population and Development Review 26(4):691–723.

CBS News
2004 Israel Scrambles to Reroute Fence. CBS News, July 1. Electronic document, http://www.cbsnews.com/stories/-2004/07/07/world/main627945.shtml, accessed December 5, 2005.
Colen, Shellee
1986 With Respect and Feelings: Voices of West Indian Childcare and Domestic Workers in New York City. *In* All American Women. Janetta Cole, ed. Pp. 46–70. New York: Free Press.
Cordesman, Anthony
1997 Strategic Developments in the Maghreb: Population Growth and Youth Explosion. Washington, DC: Center for Strategic and International Studies.
Das Gupta, Monica
1995 Life Course Perspectives on Women's Autonomy and Health Outcomes. American Anthropologist 97(3):481–491.
Delaney, Carol
1991 The Seed and the Soil. Berkeley: University of California Press.
Dodoo, F. Nii-Amoo
1998 Men Matter: Additive and Interactive Gendered Preferences and Reproductive Behavior in Kenya. Demography 35(2):229–242.
Eberstadt, Nicholas
2001 Fanatics and Fertility. Electronic document, http://www.forbes.com/global/2001/1112/046.html accessed December 1, 2005.
Feldman-Savelsberg, Pamela
1999 Plundered Kitchens, Empty Wombs: Threatened Reproduction and Identity in the Cameroon Grassfields. Ann Arbor: University of Michigan Press.
Fortes, Meyer
1970 Time and Social Structure and Other Essays. New York: Humanities Press.
Foucault, Michel
1990 The History of Sexuality, volume 1. New York: Vintage Books.
Ghuman, S. J.
2003 Women's Autonomy and Child Survival: A Comparison of Muslims and non-Muslims in Four Asian Countries. Demography 40(3):419–436.
Ginsburg, Faye, and Rayna Rapp
1991 The Politics of Reproduction. Annual Review of Anthropology 20:311–343.
Goody, Jack
1969 Comparative Studies in Kinship. Stanford: Stanford University Press.
Guyer, Jane
2004 Marginal Gains: Monetary Transactions in Atlantic Africa. Chicago: University of Chicago Press.
Hammel, Eugene, and Erik Smith
2002 Appendix: Population Dynamics and Political Stability. *In* Discouraging Terrorism: Some Implications of 9/11. Neil Smelser and Faith Mitchell, eds. Pp. 37–120. Washington DC: National Academy Press.
Hodgson, Dennis
1988 Orthodoxy and Revisionism in American Demography. Population and Development Review 14(4):541–569.
Hogan, Dennis, Betemarium Berhanu, and Assefa Hailemarium
1999 Household Organization, Women's Autonomy and Contraceptive Behavior in Southern Ethiopia. Studies in Family Planning 30:288–301.
Horn, David G.
1994 Social Bodies: Science, Reproduction, and Italian Modernity. Princeton: Princeton University Press.

Huntington, Samuel
1996 The Clash of Civilizations: Remaking of World Order. New York: Touchstone Press.
Inhorn, Marcia
1994 Quest for Conception: Gender, Infertility, and Egyptian Medical Traditions. Philadelphia: University of Pennsylvania Press.
1996 Infertility and Patriarchy: The Cultural Politics of Gender and Family Life in Egypt. Philadelphia: University of Pennsylvania Press.
Jejeebhoy, Shireen, and Z. A. Sathar
2001 Women's Autonomy in India and Pakistan: The Influence of Religion and Region. Population and Development Review 27(4):687–712.
Johnson-Hanks, Jennifer
2002 The Modernity of Traditional Contraception. Population and Development Review 28(2):229–249.
2003 Ethnicity, Education and Reproductive Practice in Contemporary Cameroon. Population 58:171–200.
2005 When the Future Decides: Uncertainty and Intentional Action in Contemporary Cameroon. Current Anthropology 46(3):363–385.
2006 Uncertain Honor: Modern Motherhood in an African Crisis. Chicago: University of Chicago Press.
Kanaaneh, Rhoda Ann
2002 Birthing the Nation: Strategies of Palestinian Women in Israel. Berkeley: University of California Press.
Kertzer, David
1993 Sacrificed for Honor: Italian Infant Abandonment and the Politics of Reproductive Control. Boston: Beacon Press.
Koenig, M., S. Ahmed, M. Hossain, and Abmka Mozumder
2003 Women's Status and Domestic Violence in Rural Bangladesh: Individual- and Community-Level Effects. Demography 40(2):269–288.
Mahmood, Saba
2001 Feminist Theory, Embodiment, and the Docile Agent: Some Reflections on the Egyptian Islamic Revival. Cultural Anthropology 16(2):202–236.
Masquelier, Adeline
2001 Prayer Has Spoiled Everything: Possession, Power, and Identity in an Islamic Town of Niger. Durham, NC: Duke University Press.
McQuillan, K.
2004 When Does Religion Influence Fertility? Population and Development Review 30(1):25–56.
Measham, Diana May
2004 Gender-Based Power and Susceptibility to Sexually Transmitted Infections among Women in Karnataka State, India. Ph.D. dissertation, Department of Public Health, University of California, Berkeley.
Montgomery, Mark, and Barney Cohen, eds.
1998 From Death to Birth: Mortality Decline and Reproductive Change. Washington, DC: National Academy Press.
Morgan, S. Philip, and B. B. Niraula
1995 Gender Inequality and Fertility in Two Nepali Villages. Population and Development Review 21(3):541–561.
Morgan, S. Philip, Sara Stash, Herbert Smith, and Karen Mason
2002 Muslim and Non-Muslim Differences in Female Autonomy and Fertility: Evidence from Four Asian Countries. Population and Development Review 28(3):515–537.

Moulasha, K., and G. Rao
1999 Religion-Specific Differentials in Fertility and Family Planning. Economic and Political Weekly 34(42–43):3047–3051.
Palloni, A., and H. Rafalimanana
1999 The Effects of Infant Mortality on Fertility Revisited: New Evidence from Latin America. Demography 36(1):41–58.
Preston, Samuel
1978 The Effects of Infant and Child Mortality on Fertility. New York: Academic Press.
Scheper-Hughes, Nancy
1992 Death without Weeping: Everyday Violence in Brazil. Berkeley: University of California Press.
Sciolino, Elaine
2001 Radicalism: Is the Devil in the Demographics? New York Times, Week in Review, December 9: 1.
Simon, Thomas
2003 Islam in a Globalizing World. Stanford: Stanford University Press.
Stanton, Cynthia, N. Abderrahim, and K. Hill
2000 An Assessment of DHS Maternal Mortality Indicators. Studies in Family Planning 31(2):111–123.
Stigler, Stephen
1986 The History of Statistics: The Measurement of Uncertainty before 1900. Cambridge, MA: Harvard University Press.
Strickler, Jennifer, R. Magnani, H. G. McCann, L. F. Brown, and J. C. Rice
1997 The Reliability of Reporting of Contraceptive Behavior in DHS Calendar Data: Evidence from Morocco. Studies in Family Planning 28(1):44–53.
The Sword of Militant Islam
N.d. The Sword of Islam … War Against Israel and the West! Electronic document, http://www.masada2000.org/islam.html, accessed December 5, 2005.
U.S. Census Bureau
N.d. International Data Base. Electronic document, http://www.census.gov/ipc/www/idbnew.html, accessed December 5, 2005.